SAMSUNG

SPLIT-TYPE AIR CONDITIONER

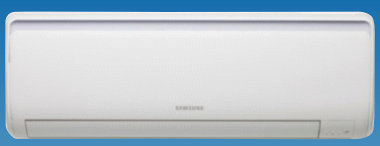
INDOOR UNIT   OUTDOOR UNIT

Normal Efficiency

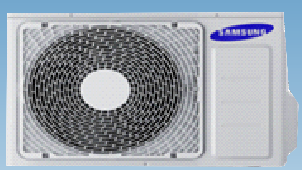
	INDOOR UNIT	OUTDOOR UNIT
Basic Model	AR09FSFPDGMNET	AR09FSFPDGMXET
	AR12FSFPDGMNET	AR12FSFPDGMXET
Model Code	AR09FSFPKGMNET	AR09FSFPKGMXET
	AR12FSFPKGMNET	AR12FSFPKGMXET
	AR09FSFPKGMNZE	AR09FSFPKGMXZE
	AR12FSFPKGMNZE	AR12FSFPKGMXZE

SERVICE Manual

AIR CONDITIONER



AR09/12FSFPKGMNET
AR09/12FSFPKGMNZE



AR09/12FSFPKGMXET
AR09/12FSFPKGMXZE

CONTENTS

Refer to the service manual in the GSPN(see the rear cover) for the more information.

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1. Precautions

1-1 Installing the air conditioner

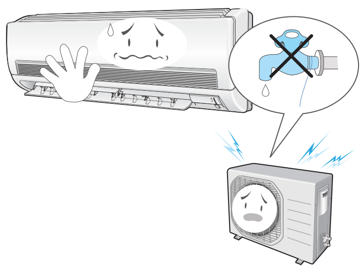
- Users should not install the air conditioner by themselves.
  Ask the dealer or authorized company to install the air conditioner except the window-type air conditioner in U.S.A and Canada.
- If you don’t install the air conditioner properly, it may cause a fire, a water leakage or an electric shock.
- You must install the air conditioner according to the national wiring regulations and safety regulations.
- Install the indoor unit higher than 2.5m from the floor to avoid the injury caused by the operation of the fan.
  (except the window-type air conditioner)
- The manufacturer is not responsible for any accidents or injury caused by an incorrect installation.
- When installing the built-in type air conditioner, keep all electric cables such as the power cable and the connection cord in pipes, ducts, or cable channels to protect them from the danger of impact or any other incidents.

1-2 Power supply and circuit breaker

- If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.
- The air conditioner must be plugged into an independent circuit if applicable or connect the power cable to the auxiliary circuit breaker.
  An all pole disconnection from the power supply must be incorporated in the fixed wiring with a contact opening of >3mm.
- Do not extend an electric cord to the air conditioner.
- The air conditioner must be plugged in after you complete the installation.

1-3 During operation

- Do not repair the air conditioner at your discretion.
  It is recommended to contact a service center directly.
- Never spill any kind of liquid on the air conditioner.
  If this happens, turn off the air conditioner and contact an authorized service center.
- Do not insert anything between the airflow blades to prevent damage of the inner fan and consequent injury.
  Keep children away from the air conditioner.
- Do not place any obstacles in front of the air conditioner.
- Do not spray any kind of liquid into the indoor unit. If this happens, turn off the air conditioner and contact a service center.
- Make sure that the air conditioner is well ventilated at all times:
  Do not place a cloth or other materials over it.
- Remove the batteries if you don’t use the remote control for a long time. (If applicable)
- Use the remote control within 7 meters from the indoor unit. (If applicable)

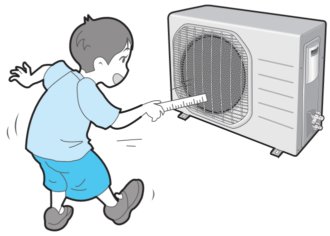


1-4 Disposing of the unit

- Before throwing out the air conditioner, remove the batteries from the remote control.
- When you dispose of the air conditioner, consult your dealer. If pipes are removed incorrectly, refrigerant may blow out and cause air pollution. When it contacts with your skin, it can cause skin injury.
- The package of the air conditioner should be recycled or disposed of properly for environmental reasons.

1-5 Others

- Never store or load the air conditioner upside down or sideways to prevent the damage to the compressor.
- Young children or infirm persons should be always supervised when they use the air conditioner.
- Max current is measured according to IEC standard for safety.
- Current is measured according to ISO standard for energy efficiency.



2. Product Specifications

2-1 The Feature of Product

- **good'sleep Mode**
  good' sleep mode can help you sleep quickly and soundly and wake up refreshed.

- **Catech in Filter**

- **Silver Nano Evap orator**

- **Deo dorizing Filter**

  then withclean,refreshin air

2-2 Product Specifications

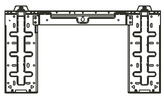
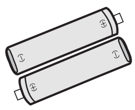
Item				Model	AR09FSFPKGM*ET/AR09FSFPKGM*ZE		AR12FSFPKGM*ET/AR12FSFPKGM*ZE	
					Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit
Type					Wall-mounted		Wall-mounted	
Performance	Capacity	Cooling		kW (Low / Std / Max)	0.97/2.5/3.3		0.97/3.5/4.0	
		Heating			0.97/3.3/4.7		0.97/4.0/5.4	
	Running Frequency	Cooling		Hz (Low / Std / Max)	20/47/63		20/73/80	
		Heating			20/64/85		20/78/100	
	Dehumdifying			⊠h	-		-	
	Air Volume	Cooling		m³/min (H/M/L)	-	-	-	-
		Heating			-	-	-	-
	Noise	Cooling		dB (H/L)	42	55	43	53
		Heating			51	65	56	65
	Energy Efficiency Ratio	Cooling		W/W (Std)	3.49/9.00/11.88		3.31/11.94/13.64	
		Heating			3.49/11.26/16.92		3.31/13.94/18.42	
	Power			ph-V-Hz	1-220/240-50		1-220/240-50	
Power	Power Consumtion	Cooling		W (Low / Std / Max)	220/670/930		220/1090/1250	
		Heating			200/840/1300		200/1100/1500	
	Operating Current	Cooling		A (Low / Std / Max)	1.4/4.0/4.5		1.4/5.4/5.8	
		Heating			1.2/4.2/6.0		1.2/5.5/7.6	
	Power Factor	Cooling		% (Low / Std / Max)	70 /90 /95		70 /90 /95	
		Heating			70 /90 /95		70 /90 /95	
Size	Outer Dimension	W x H x D		mm	820*285*215	790*545*285	820*285*215	790*545*285
	Weight(Net)			kg	8.2	31.5	8.2	31.5
	Refrigerant Pipe	Liquid		mm x L(m)	Φ6.35 x 7.5		Φ6.35 x 7.5	
		Gas		mm x L(m)	Φ9.52x 7.5		Φ 9.52 x 7.5	
	Drain Hose			D x L(mm)	Φ20*550		Φ20*550	
	Compressor	Type			Rotary UG9A090FUBJPSS		Rotary,UG9A090FUBJPSS	
		Motor	Type		Hermetic		Hermetic	
			Rated Output		875		875	
	Oil Type				FREOLa68ES-T		FREOLa68ES-T	
	Blower	Type			Cross-flow	Propeller	Cross-flow	Propeller
		Motor	Type		Resin/Steel	Resin/Steel	Resin/Steel	Resin/Steel
			Rated Output	W	40	93	40	93
HeatExchanger					2 Row 14 Step	1 Row 24 Step	2 Row 14 Step	1 Row 24 Step
Refrigerant Control Unit					EEV		EEV	
Freezer Oil Capacity				cc	700		700	
Refrigerant to Change (R410A)				g	900		900	
Protection Device(OLP)					None		None	
Cooling TestCondition					IndoorUnit : DB80 ° F WB67° F (Indoor Unit : DB 27C WB19° C)		Outdoor Unit : DB95° F WB75° F (Outdoor Unit : DB35 C WB24° C)	
Heating TestCondition					Outdoor Unit : DB68° F WB59° F (Outdoor Unit : DB 20 C WB15° C)		Outdoor Unit : DB47° F WB43° F (Outdoor Unit : DB 7 C WB6° C)	
Operation conditon range		cooling		indoor	61° F~90° F(16° C~32° C)		61° F~90° F(16° C~32° C)	
				Outdoor	14° F~114.8° F(-10° C~46° C)		14° F~114.8° F(-10° C~46° C)	
		heating		indoor	80° F(27° C)		les80°F(27° C) or less	
				Outdoor	5° F~75° F(-15° C~24° C		5° F~75° F(-15° C~24° C)	

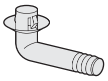
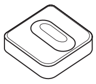
2-3 The Comparative Specifications of Product

Model		Normal Efficiency Model		High Efficiency Model	
		AR09FSFPKGMNET/AR09FSFPKGMNZE	AR09FSFPKGMXET/AR09FSFPKGMXZE	AR12FSFPKGMNET/AR12FSFPKGMNZE	AR12FSFPKGMXET/AR12FSFPKGMXZE
Design	Indoor Unit				
	Outdoor Unit				
Net Weight	Indoor Unit	8.2 kg		8.2 kg	
	Outdoor Unit	30.0 kg		30.0 kg	
Dimension (W x H x D)	Indoor Unit	820 x 285 x 205 (mm)		820 x 285 x 205 (mm)	
	Outdoor Unit	720 x 545 x 285 (mm)		790 x 545 x 285 (mm)	
Noise Level	Indoor Unit	42/55 dB		43/56 dB	
	Outdoor Unit	51/65 dB		53/65 dB	
Air Purifying System	Filter	Evaporator Catechin Filter			
Indoor Display		Color LED Display (3 Mode)			

2-4 Accessory and Option Specifications

2-4-1 Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Assy Plate Hanger	DB97-02851C	1	Indoor Unit
	Remote Control	DB93-11115K	1	
	Batteries for Remote Control	DB47-90024A	2	
	Manual	DB98-32436A	1	

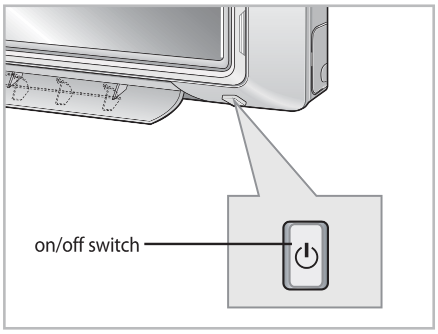
Item	Descriptions	Code-No.	Q'TY	Remark
	Drain Plug	DB67-20011A	1	Outdoor Unit
	Rubber Leg	DB73-20134A	4	

3. Alignment and Adjustments

3-1 Test Mode

■ **How to Approach Test Mode**

You can approach the Test Mode by pressing the on/off switch of indoor unit for 5 seconds.



■◗ **Test Mode Operation Option**

After installing the air conditioner, check whether each subordinate is normally operated or not by operating the Test Mode.

- **When an error occurs, display the Error Mode.**
- **Operation Mode :** Cool mode. Operate the cool mode by operating the compressor by force without the compressor ON/OFF according to the set temperature/indoor temperature. (Do not follow the antifreeze control)
- **Up-down louver :** Up-down swing mode
- **Indoor Fan :** High

> ⚠ • Because the Test Mode operate the cool mode by force not related to the set temperature / indoor temperature, check whether each subordinate is operated normally or not after completing installation and must turn off the power of the air conditioner.

3-2-2 Outdoor LED Display Error and Check Method

■

YEL	GRN	RED	DESCRIPTION
○	○	○	Power off/VDD NG
○	○	◎	IPM Over Current(O.C)
○	○	●	Abnormal Serial Communication (Indoor ↔ Outdoor)
○	●	●	
○	◎	●	Normal Operation
○	◎	○	Comp Starting Error
○	●	◎	DC-Link Voltage Under/Over error / PFC Over Load/ H/W DC Link Over
◎	○	◎	Outdoor Temp Sensor Error
◎	○	●	Discharge Over Temperature
◎	◎	○	Discharge Temp Sensor Error
◎	◎	●	Current Sensor Error/ Heatsink Sensor/ Input Current Sensor
◎	●	○	Comp Vlimit Error/ Heatsink Over
◎	●	◎	Coil Temp Sensor Error
◎	●	●	1min. Time Out Communication (Inverter ↔ Main)
○	●	○	EEPROM Data Error
●	○	○	Fan Error
●	○	◎	OTP Error
●	○	●	Comp Rotation Error
●	◎	○	Operation Condition Secession
●	◎	◎	DC-Link Voltage Sensor Error
●	◎	●	I Trip Error / PFC Over Current
●	●	○	GAS Leak Error(Dual/Single)
●	●	◎	AC Line Zero Cross Signal Out
●	●	●	Power ON Reset(1sec)
◎	○	○	Capacity Miss Match
○	◎	◎	Test Operation at Cooling Mode
◎	◎	◎	Test Operation at Heating Mode

● LED ON
◎ LED BLINKING
○ LED OFF

4. Troubleshooting

4-1 Setting Option Setup Method

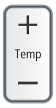
ex) Option No. :

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12	SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
0	3	0	0	0	0	1	7	C	2	6	C	2	8	3	1	0	0	3	0	0	0	0	0

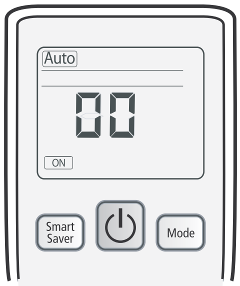
NOTE:
SEG1, SEG7, SEG13, SEG19 need not to be pressed in, so in fact the Option No. we should press in is as below.
30 00 07 C2 6C 83 10 00 00 00

Step 1 : Enter the Option Setup mode.

1st Take out the batteries of remote control.

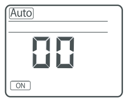
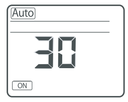
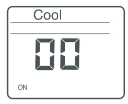
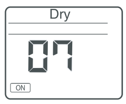
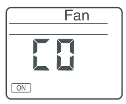
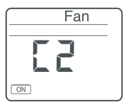
2nd Press the temperature  button simultaneously and insert the battery again.

3rd Make sure the remote contr display shown as  .



Step 2 : Enter the Option Setup mode and select your option according to the following procedure.



	Feature	Display
1	The default value is 00. Every time you push the [Mode] button, the display panel reads [ON] Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat , [OFF] Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat repeatedly.	
2	Push the [Fan ∨] button to set the display panel to 3. Every time you push the [Fan ∨] button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ …… ➡ 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
3	Push the [Mode] button to Cool 00. Every time you push the [Fan ∨] button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ …… ➡ 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
4	Push the [Mode] button to Dry 00. Push the [Fan ∧] button to set the display panel to 7. Every time you push the [Fan ∧] button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ …… ➡ 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
5	Push the [Mode] button to Fan 00. Push the [Fan ∨] button to set the display panel to C. Every time you push the [Fan ∨] button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ …… ➡ 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
6	Push the [Fan ∧] button to set the display panel to 2. Every time you push the [Fan ∧] button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ …… ➡ 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	

4-1 Setting Option Setup Method(continue)



	Feature	Display
7	Push the (Mode) button to (Heat 00). Push the (Fan ∨) button to set the display panel to 6. Every time you push the (Fan ∨) button, the display panel reads 0➡1➡2➡3➡ …… ➡9➡A➡b➡c➡d➡E➡F repeatedly.	Heat 60 ON
8	Push the (Fan ∧) button to set the display panel to 8. Every time you push the (Fan ∧) button, the display panel reads 0➡1➡2➡3➡ …… ➡9➡A➡b➡c➡d➡E➡F repeatedly.	Heat 6C ON
9	Push the (Mode) button to (Auto 00). Push the (Fan ∨) button to set the display panel to 8. Every time you push the (Fan ∨) button, the display panel reads 0➡1➡2➡3➡ …… ➡9➡A➡b➡c➡d➡E➡F repeatedly.	Auto 80 OFF
10	Push the (Fan ∧) button to set the display panel to 3. Every time you push the (Fan ∧) button, the display panel reads 0➡1➡2➡3➡ …… ➡9➡A➡b➡c➡d➡E➡F repeatedly.	Auto 83 OFF
11	Push the (Mode) button to (Cool 00). Push the (Fan ∨) button to set the display panel to 1. Every time you push the (Fan ∨) button, the display panel reads 0➡1➡2➡3➡ …… ➡9➡A➡b➡c➡d➡E➡F repeatedly.	Cool 10 OFF
12	Push the (Mode) button to (Dry 00).	Dry 00 OFF
13	Push the (Mode) button to (Fan 00).	Fan 00 OFF
14	Push the (Mode) button to (Heat 00).	Heat 00 OFF

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode (Mode) Selection key to set the display part and check the display part.

➡ The display part shows like below when each time you press Mode button .

Auto 30 ON	Cool 00 ON	Dry 07 ON	Fan C2 ON	Heat 6C ON	Auto 83 OFF	Cool 10 OFF	Dry 00 OFF	Fan 00 OFF	Heat 00 OFF

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON(≋) lamp of the display is flickering at the same time, then the input of option is completed.
(If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding"
is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed.
(If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.
Second, Re-insert the battery into the remote control.
Third, Press ON/OFF key with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

■ OPTION ITEMS

MODEL	SEG1-24	SEG25-48	SEG49-72
AR09FSFPKGM*ET	011405-18421D-271921-37F501	020000-100000-200000-300000	034244-112F40-200000-300000
AR12FSFPKGM*ET	011405-19422C-272328-37F501	020000-100000-200000-300000	034D4C-11494E-200000-300000
AR09FSFPKGM*ZE	011405-18421D-271921-37F501	020000-100000-200000-300000	034244-112F40-200000-300000
AR09FSFPKGM*ZE	011405-19422C-272328-37F501	020000-100000-200000-300000	034D4C-11494E-200000-300000

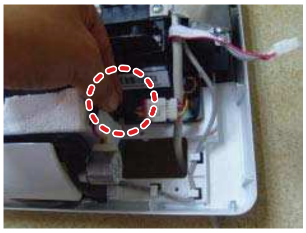
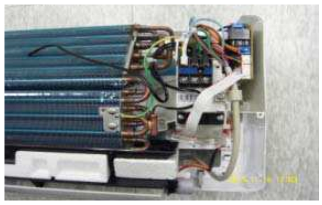
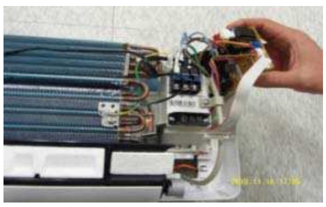
4. Disassembly and Reassembly

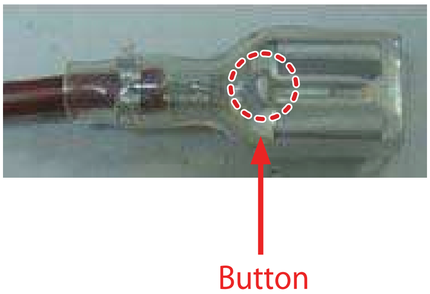
■ Necessary Tools

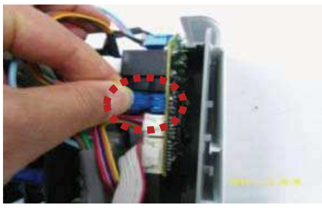
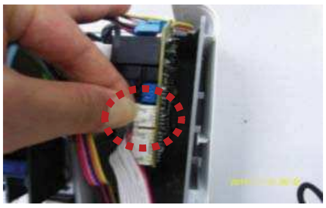
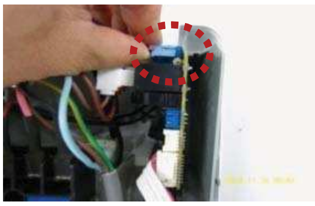
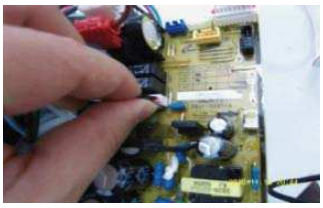
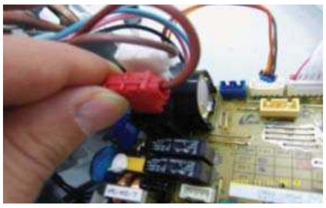
Item	Remark
SCREW DRIVER	
MONKEY SPANNER	

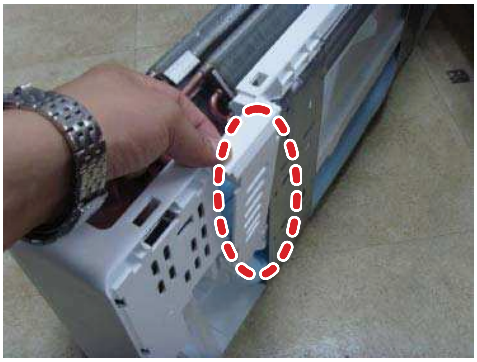
4-1 Indoor Unit

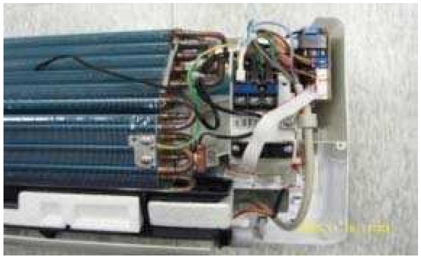
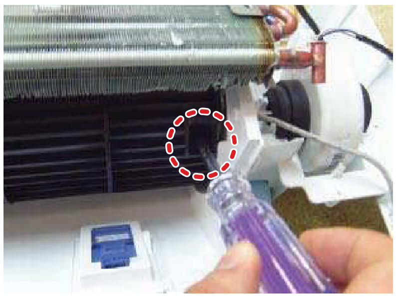
No	Parts	Procedure	Remark
1	PANEL-FRONT	1) Stop the driving of air conditioner and shut off main power supply. 2) Open the FRONT-GRILLE and pull out from the PANEL-FRONT.	
		3) Detach COVER-TERMINAL from the PANEL-FRONT.(use + Screw Driver)	
		4) Loosen connector wire(white) and detach the temperature sensor wire.	
		5) To detach the FRONT-PANEL the main frame, unfasten 2 screw at the bottom.(use + Screw Driver)	
		6) Take off the FRONT-PANEL,lifting up the bottom.	

No	Parts	Procedure	Remark
2	TRAY DRAIN	1) Loosen stepping motor wire and detach the hook of main frame.	
		2) To detach TRAY-DRAIN from the main frame, pull the bottom of the TRAY-DRAIN towards you.	
3	CONTROL IN	1) Unfasten the earth screw.(use + Screw Driver)	
		2) Detach COVER-CONTROL from the CASECONTROL.	
		3) Detach the temperature sensor.	
		4) Loosen MOTOR Wire.	
		5) Take off the CASE-CONTROL from the main frame.	

No	Parts	Procedure	Remark
4	PBA	1) Unfasten the screw.	
		2) Cut the cable tie.	
		3) Loosen the terminal block wires. ❈ Caution: The terminal is locking type. So, when you separate terminals, pull pressing the button. 	

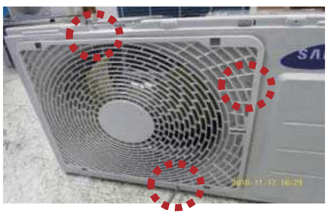
No	Parts	Procedure	Remark
4	PBA	4) Loosen the Motor Feedback connector. ❈ Caution: When you separate the connector, pull pressing the locking button.	
		5) Loosen Stepping MOTOR connector. ❈ Caution: When you separate the connector, pull pressing the locking button.	
		6) Loosen Main Power connector. ❈ Caution: When you separate the connector, pull pressing the locking button.	
		7) Loosen the Thermistor wire connector. ❈ Caution: When you separate the connector, pull pressing the locking button.	
		8) Loosen the Relay connector(Red,White).	

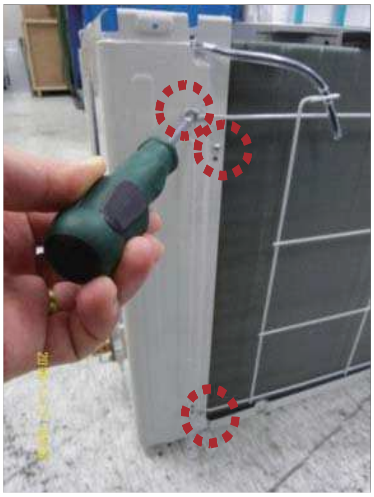
No	Parts	Procedure	Remark
5	EVAPORATOR	1) Unfasten the screw at the right side. (use + Screw Driver)	
		2) Unfasten the screw at the left side. (use + Screw Driver)	
		3) Detach the HOLDER PIPE.	
		4) Take off the EVAPORATOR from the main frame.	

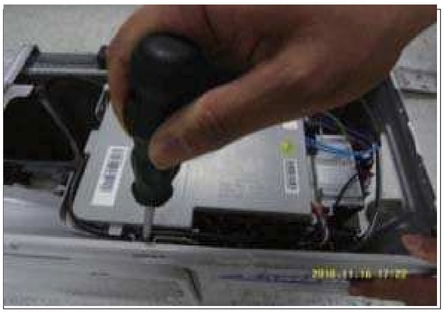
No	Parts	Procedure	Remark
6	FAN MOTOR & CROSS FAN	1) Unfasten the screw in the HOLDER-EVAP on the left side of evaporator.(use + Screw Driver)	
		2) unfasten the 3 points screws in the CASE-CONTROL, and then detach the CASE. (use + Screw Driver)	
		3) unfasten the screw a little.(use + Screw Driver)	
		4) Lift up the evaporator slightly and pull the CROSS-FAN to the left side.	

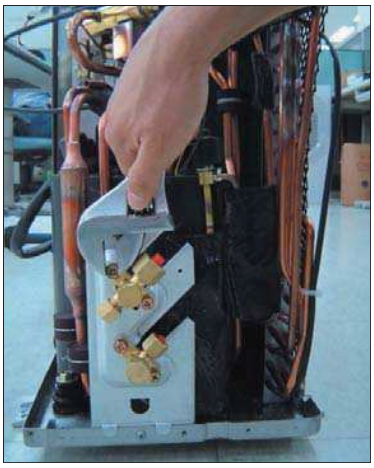
4-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen 1 fixing screw(CCW) of the Cover-Side. (Use +Screw Driver.)	
		2) Loosen each 5 screws(CCW) on both right and left Cabinet Side edges and a fixing screw on the Cabinet Front lower to detach the Cabinet Front. (Use +Screw Driver.)	
		3) Detach the Cabinet Upper like the picture.	
		4) Loosen 2 screw(CCW) fixed to assemble Plate Control Out with Cabinet-Side RH. (Use +Screw Driver.)	

No	Parts	Procedure	Remark
1	Common Work	5) Loosen 2 screw(CCW) on the right side of Cabinet Front. (Use +Screw Driver)	
		6) Loosen 2 screw(CCW) on the left side of Cabinet Front. (Use +Screw Driver)	
		7) Loosen 3 screw(CCW) on the front side of Cabinet Front. (Use +Screw Driver)	

No	Parts	Procedure	Remark
		8) Loosen 3 fixing screws(CCW) on the rear side of Cabinet-Side RH. (Use +Screw Driver.)	
		9) Loosen 3 screws(CCW) fixed to assemble Bracket Valve with Cabinet-Side RH. (Use +Screw Driver.)	

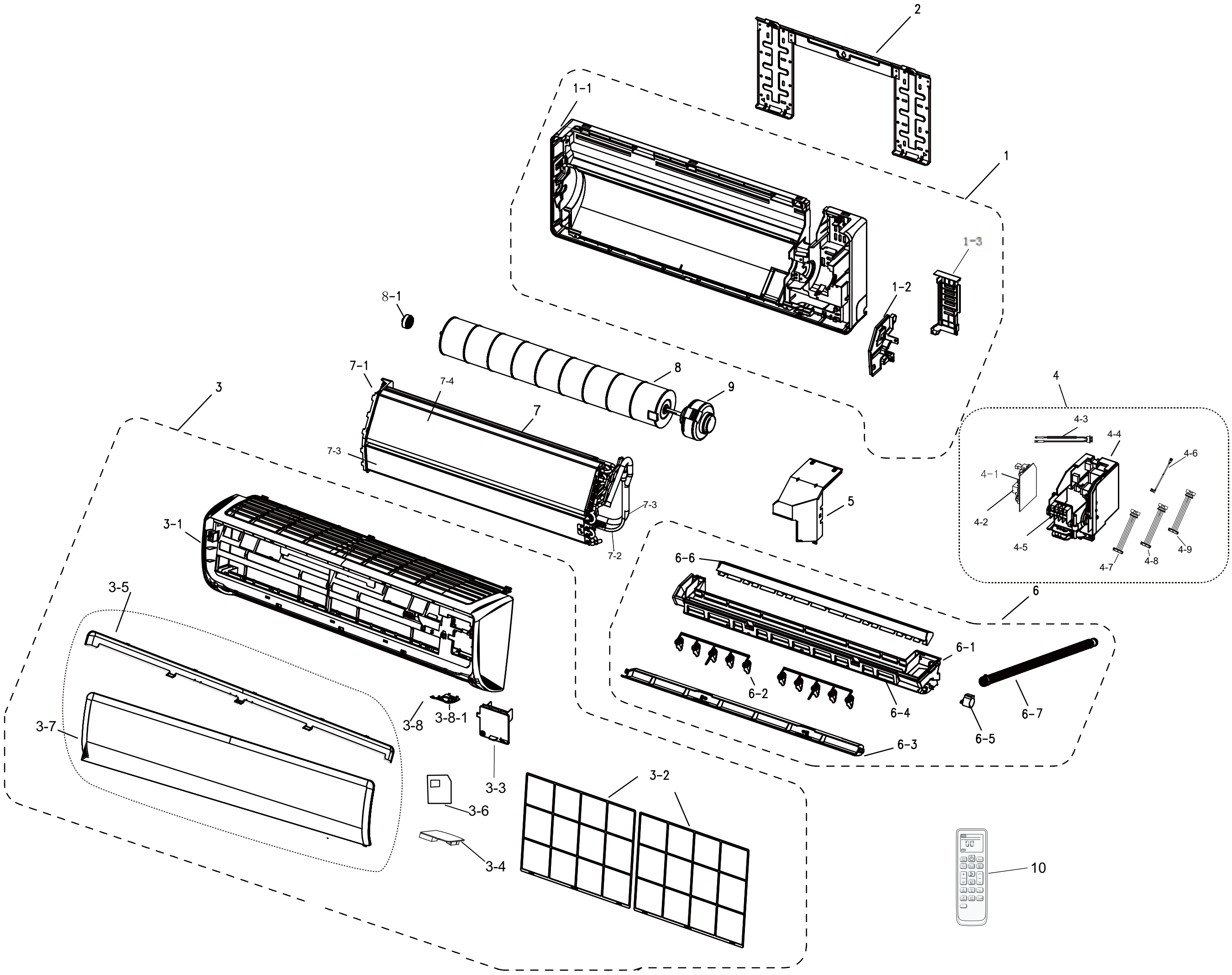
No	Parts	Procedure	Remark
2	Ass'y Control Out	1) Detach the Motor Wire from the PCB of Ass'y Control Out.	
		2) Detach several connectors from the PCB of Ass'y Control Out.	
		3) Detach 2 Connect Wires from Reactor.	
		4) Loosen 1 screw(CCW) fixed to assemble Ass'y Control Out with Partition. (Use +Screw Driver.)	

No	Parts	Procedure	Remark
3	Fan & Motor	1) Release Nut at Fan Boss 2) Release 3 screws st Motor Bracket. 3) Detach Motor Wire from the Assy Control Out.	 
4	Heat Exchanger	1) Loosen 1 fixing screws(CCW) on both sides. (Use +Screw Driver.) 2) Disassemble the pipes in both inlet and outlet with welding torch. 3) Detach the Heat Exchanger. ⚠ Before you disassemble the pipes and Condenser, be sure that there should be no refrigerant remained in the unit.	
5	Ass'y Valve 4-Way & Ass'y Valve EEV	1) Loosen 4 bolts(CCW) fixed to assemble Valve Service with Bracket Valve like the picture on the right side. (Use Monkey Spanner.) 2) Disassemble the pipes assembled the suction and discharge sides of the Compressor with welding torch.	
6	Compressor	1) Loosen the Nut(CCW) of Terminal Cover. (Use Monkey Spanner.) 2) Detach the Terminal Cover and detach the Connect Comp Wire from Compressor. 3) Disassemble the Felt Comp Sound. 4) Loosen the 3 bolts(CCW) at the bottom of Compressor like the picture on the right side. (Use Monkey Spanner.)	

Exploded views and Parts list

Indoor Unit

AR09FSFPKGMNET
AR12FSFPKGMNET
AR09FSFPKGMNZE
AR12FSFPKGMNZE



Parts List

NO.	CODE NO.	Description	Specitification	Q' ty	SA/SNA
				AR09FSFPKGMNET	
1	DB94-01921M	ASSY BACK BODY	white,VIVALDI,SSEC	1	SA
1-1	DB61-03656C	BODY BACK	VIVALDI,HIPS,2.5,-,820,286,WHITE,SSEC	1	SNA
1-2	DB61-03651B	SUPPORT-EVAP RH	VIVALDI,ABS,2,52.2,130.1,SSEC	1	SA
1-3	DB61-03666A	HOLDER-PIPE	VIVALDI,HIPS,T2.0,63.5,183.7,SC-06106R,SSEC	1	SA
2	DB97-02851C	ASSY-PLATE HANGER	vivaldi 1,ssec	1	SA
3	DB92-02280U	ASSY PANEL FRONT	INV,WHITE,R410,SSEC	1	SA
3-1	DB64-02561A	PANEL FRONT	MODIVES-1,HIPS,3,820,WHITE	1	SA
3-2	DB63-02760F	FILTER-PRE	Maldives 1,pp,2.2,302.5,280.5,BLUE,SSEC	2	SA
3-3	DB97-11240C	ASSY COVER TERMINAL	VIVALDI 1,-,-,-,SSEC	1	SA
3-4	DB63-02119A	COVER-PBA	VIVALDI,SGCC-M,0.4,103.6,139.6,-,SC-06106R,SSEC	1	SNA
3-5	DB64-02550C	DECORATION-PANEL	MALDIVES1,HIPS,W42,L783.8,Silver SPRAY,SSEC	1	SNA
3-6	DB93-10861A	ASSY PCB SUB-DISPLAY	MALDIVE-PJT,SSEC,N	1	SA
3-7	DB64-02553C	GRILLE-AIR INLET	MALDIVES1,HIPS,T2.0,W196.6,L779.9,SC-06106R DA-WHITE,SSEC	1	SA
3-8	DB90-06134B	ASSY COVER DISPLAY	AQV12PSB,SSEC	1	SA
3-8-1	DB63-02762B	COVER DISPLAY	maldives 1,HIPS,T2.0,74.3	1	SA
4	DB93-12914E	ASSY CONTROL IN	INV	1	SNA
4-1	DB93-12827D	ASSY PCB MAIN-IN	STD#4,INV,AC FAN,SPI,Y,SMPS,TOP253P	1	SA
4-2	3502-000115	SSR	12V,2A,1ms,1ms	1	SA
4-3	DB95-04570B	ASSY THERMISTOR IN	BORACAY	1	SA
4-4	DB61-04578A	CASE CONTROL IN	LOW COST	1	SA
4-5	DB65-00326A	TERMINAL BLOCK	THERMAL FUSE;4P,PBT,4-TAB	1	SA
4-6	DB93-10942A	ASSY CONNECTOR WIRE	JUNGFRAU-PJT,MAIN TO T/B	1	SA
4-7	DB93-10918H	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-8	DB93-10943B	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-9	DB93-10943P	ASSY CONNECTOR WIRE	INV	1	SA
5	DB90-04385A	ASSY COVER CONTROL IN	VIVALDI,SSEC	1	SA
6	DB94-02960A	ASSY TRAY DRAIN	White,RH,550,Y,R410A,AQV12PWAN,SSEC	1	SA
6-1	DB63-02118A	TRAY DRAIN	VIVALDI,HIPS,2.5,96,690.6,-,VIVALDI BLACK,SSEC	1	SNA
6-2	DB61-03672A	BLADE-V	VIVALDI-1,PP,BLACK,T2.0,SSEC	2	SA
6-3	DB66-01559A	BLADE-H	MALDIVES-1,ABS,WHITE,3t	1	SA
6-4	DB69-00839A	CUSHION-TRAY RH	SS-P/J,EPS,-,-,-,-,3g,WHITE,SSEC,RAC,AS	1	SNA
6-5	DB31-00371C	MOTOR STEP	24BYJ48,DC15V	1	SA
6-6	DB63-02121A	TRAY-STABILIZER	VIVALDI,HIPS,2.5,34.5,580,-,VIVALDI BLACK,SSEC	1	SNA
6-7	DB94-00458D	ASSY HOSE DRAIN	WHITE,LFET,550,Y,R410,-,-,SSEC	1	SA
7	DB96-11359B	ASSY EVAP TOTAL	VIVALDI 1(INV) 12K,SSEC	1	SA
7-1	DB61-03650A	HOLDER-EVAP	VIVALDI,HIPS,2,41.8,146.9,SR-03101R,SSEC	1	SNA
7-2	DB96-11326C	ASSY TUBE EVAP IN	SSEC	1	SA
7-3	DB96-11683C	ASSY TUBE EVAP OUT	VIVALDI,SSEC	1	SA
7-3	DB96-11107E	ASSY EVAP SUB	VIVIALDI-1,SSEC	1	SA
7-4	DB96-11120R	ASSY EVAP MAIN	VIVALDI-1,SSEC	1	SA
8	DB94-01874A	ASSY-CROSS FAN	VIVALDI,SSEC	1	SA
8-1	DB94-00455B	ASSY-RUBBER BEARING	WW-PJT,CR,BLK SSEC	1	SA
9	DB31-00531D	MOTOR FAN	Y4S476A39,VIVALDI-PJT,50HZ,230V,Eclass	1	SA
10	DB93-11115K	ASSY REMOCON	ARH-5009,MALDIVES, BORACAY, MAX, NEO FORTE	1	SA

Parts List

NO.	CODE NO.	Description	Specitification	Q' ty	SA/SNA
				AR12FSFPKGMNET	
1	DB94-01921M	ASSY BACK BODY	white,VIVALDI,SSEC	1	SA
1-1	DB61-03656C	BODY BACK	VIVALDI,HIPS,2.5,-,820,286,WHITE,SSEC	1	SNA
1-2	DB61-03651B	SUPPORT-EVAP RH	VIVALDI,ABS,2,52.2,130.1,SSEC	1	SA
1-3	DB61-03666A	HOLDER-PIPE	VIVALDI,HIPS,T2.0,63.5,183.7,SC-06106R,SSEC	1	SA
2	DB97-02851C	ASSY-PLATE HANGER	vivaldi 1,ssec	1	SA
3	DB92-02280U	ASSY PANEL FRONT	INV,WHITE,R410,SSEC	1	SA
3-1	DB64-02561A	PANEL FRONT	MODIVES-1,HIPS,3,820,WHITE	1	SA
3-2	DB63-02760F	FILTER-PRE	Maldives 1,pp,2.2,302.5,280.5,BLUE,SSEC	2	SA
3-3	DB97-11240C	ASSY COVER TERMINAL	VIVALDI 1,-,-,-,SSEC	1	SA
3-4	DB63-02119A	COVER-PBA	VIVALDI,SGCC-M,0.4,103.6,139.6,-,SC-06106R,SSEC	1	SNA
3-5	DB64-02550C	DECORATION-PANEL	MALDIVES1,HIPS,W42,L783.8,Silver SPRAY,SSEC	1	SNA
3-6	DB93-10861A	ASSY PCB SUB-DISPLAY	MALDIVE-PJT,SSEC,N	1	SA
3-7	DB64-02553C	GRILLE-AIR INLET	MALDIVES1,HIPS,T2.0,W196.6,L779.9,SC-06106R DA-WHITE,SSEC	1	SA
3-8	DB90-06134B	ASSY COVER DISPLAY	AQV12PSB,SSEC	1	SA
3-8-1	DB63-02762B	COVER DISPLAY	maldives 1,HIPS,T2.0,74.3	1	SA
4	DB93-12914E	ASSY CONTROL IN	INV	1	SNA
4-1	DB93-12827D	ASSY PCB MAIN-IN	STD#4,INV,AC FAN,SPI,Y,SMPS,TOP253P	1	SA
4-2	3502-000115	SSR	12V,2A,1ms,1ms	1	SA
4-3	DB95-04570B	ASSY THERMISTOR IN	BORACAY	1	SA
4-4	DB61-04578A	CASE CONTROL IN	LOW COST	1	SA
4-5	DB65-00326A	TERMINAL BLOCK	THERMAL FUSE;4P,PBT,4-TAB	1	SA
4-6	DB93-10942A	ASSY CONNECTOR WIRE	JUNGFRAU-PJT,MAIN TO T/B	1	SA
4-7	DB93-10918H	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-8	DB93-10943B	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-9	DB93-10943P	ASSY CONNECTOR WIRE	INV	1	SA
5	DB90-04385A	ASSY COVER CONTROL IN	VIVALDI,SSEC	1	SA
6	DB94-02960A	ASSY TRAY DRAIN	White,RH,550,Y,R410A,AQV12PWAN,SSEC	1	SA
6-1	DB63-02118A	TRAY DRAIN	VIVALDI,HIPS,2.5,96,690.6,-,VIVALDI BLACK,SSEC	1	SNA
6-2	DB61-03672A	BLADE-V	VIVALDI-1,PP,BLACK,T2.0,SSEC	2	SA
6-3	DB66-01559A	BLADE-H	MALDIVES-1,ABS,WHITE,3t	1	SA
6-4	DB69-00839A	CUSHION-TRAY RH	SS-P/J,EPS,-,-,-,-,3g,WHITE,SSEC,RAC,AS	1	SNA
6-5	DB31-00371C	MOTOR STEP	24BYJ48,DC15V	1	SA
6-6	DB63-02121A	TRAY-STABILIZER	VIVALDI,HIPS,2.5,34.5,580,-,VIVALDI BLACK,SSEC	1	SNA
6-7	DB94-00458D	ASSY HOSE DRAIN	WHITE,LFET,550,Y,R410,-,-,SSEC	1	SA
7	DB96-11359B	ASSY EVAP TOTAL	VIVALDI 1(INV) 12K,SSEC	1	SA
7-1	DB61-03650A	HOLDER-EVAP	VIVALDI,HIPS,2,41.8,146.9,SR-03101R,SSEC	1	SNA
7-2	DB96-11326C	ASSY TUBE EVAP IN	SSEC	1	SA
7-3	DB96-11683C	ASSY TUBE EVAP OUT	VIVALDI,SSEC	1	SA
7-3	DB96-11107E	ASSY EVAP SUB	VIVIALDI-1,SSEC	1	SA
7-4	DB96-11120R	ASSY EVAP MAIN	VIVALDI-1,SSEC	1	SA
8	DB94-01874A	ASSY-CROSS FAN	VIVALDI,SSEC	1	SA
8-1	DB94-00455B	ASSY-RUBBER BEARING	WW-PJT,CR,BLK SSEC	1	SA
9	DB31-00531D	MOTOR FAN	Y4S476A39,VIVALDI-PJT,50HZ,230V,Eclass	1	SA
10	DB93-11115K	ASSY REMOCON	ARH-5009,MALDIVES, BORACAY, MAX, NEO FORTE	1	SA

■ Parts List

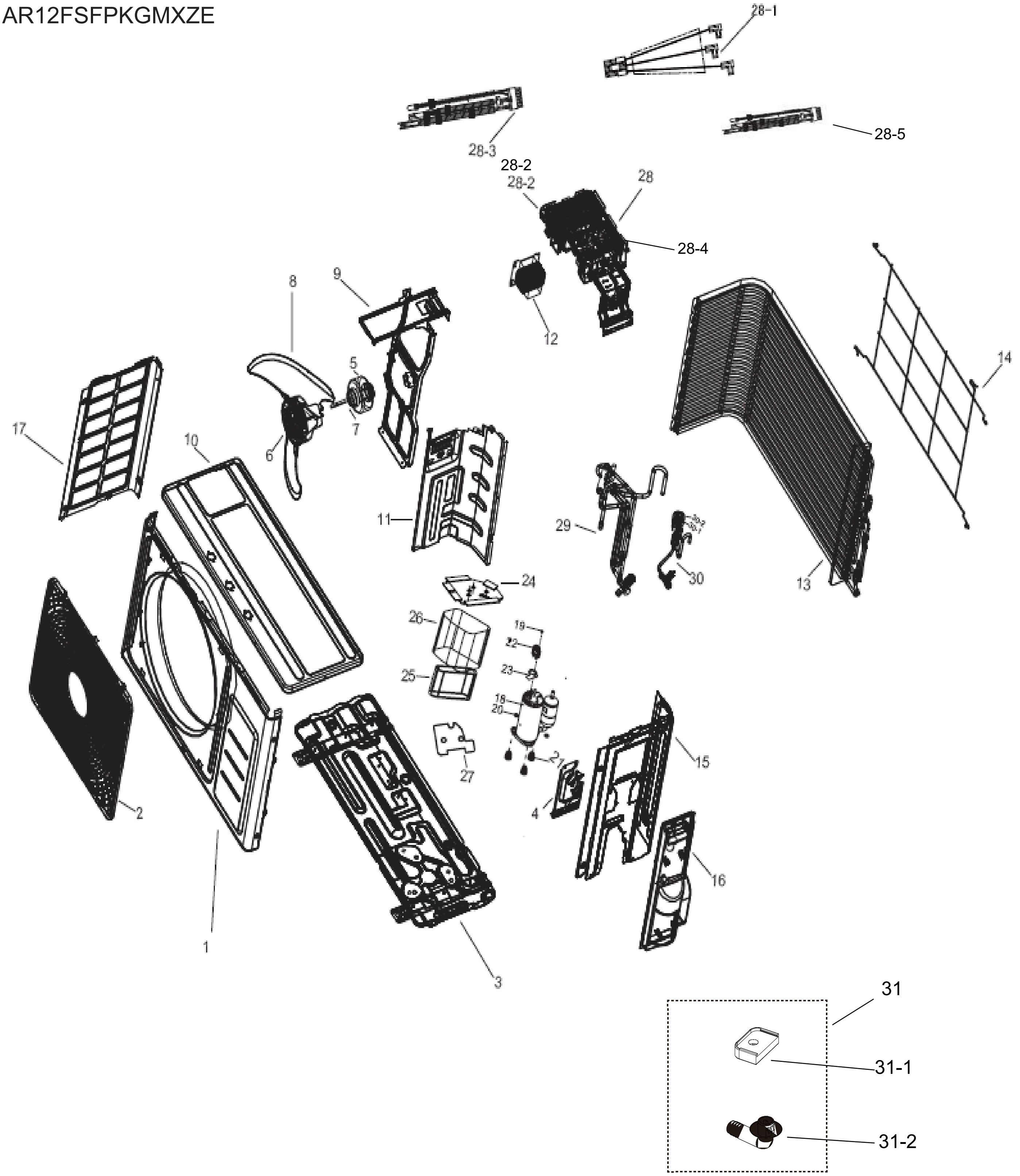
NO.	CODE NO.	Description	Specitification	Q' ty	SA/SNA
				AR09FSFPKGMNZE	
1	DB94-01921M	ASSY BACK BODY	white,VIVALDI,SSEC	1	SA
1-1	DB61-03656C	BODY BACK	VIVALDI,HIPS,2.5,-,820,286,WHITE,SSEC	1	SNA
1-2	DB61-03651B	SUPPORT-EVAP RH	VIVALDI,ABS,2,52.2,130.1,SSEC	1	SA
1-3	DB61-03666A	HOLDER-PIPE	VIVALDI,HIPS,T2.0,63.5,183.7,SC-06106R,SSEC	1	SA
2	DB97-02851C	ASSY-PLATE HANGER	vivaldi 1,ssec	1	SA
3	DB92-02280U	ASSY PANEL FRONT	INV,WHITE,R410,SSEC	1	SA
3-1	DB64-02561A	PANEL FRONT	MODIVES-1,HIPS,3,820,WHITE	1	SA
3-2	DB63-02760F	FILTER-PRE	Maldives 1,pp,2.2,302.5,280.5,BLUE,SSEC	2	SA
3-3	DB97-11240C	ASSY COVER TERMINAL	VIVALDI 1,-,-,-,SSEC	1	SA
3-4	DB63-02119A	COVER-PBA	VIVALDI,SGCC-M,0.4,103.6,139.6,-,SC-06106R,SSEC	1	SNA
3-5	DB64-02550C	DECORATION-PANEL	MALDIVES1,HIPS,W42,L783.8,Silver SPRAY,SSEC	1	SNA
3-6	DB93-10861A	ASSY PCB SUB-DISPLAY	MALDIVE-PJT,SSEC,N	1	SA
3-7	DB64-02553C	GRILLE-AIR INLET	MALDIVES1,HIPS,T2.0,W196.6,L779.9,SC-06106R DA-WHITE,SSEC	1	SA
3-8	DB90-06134B	ASSY COVER DISPLAY	AQV12PSB,SSEC	1	SA
3-8-1	DB63-02762B	COVER DISPLAY	maldives 1,HIPS,T2.0,74.3	1	SA
4	DB93-12914E	ASSY CONTROL IN	INV	1	SNA
4-1	DB93-12827D	ASSY PCB MAIN-IN	STD#4,INV,AC FAN,SPI,Y,SMPS,TOP253P	1	SA
4-2	3502-000115	SSR	12V,2A,1ms,1ms	1	SA
4-3	DB95-04570B	ASSY THERMISTOR IN	BORACAY	1	SA
4-4	DB61-04578A	CASE CONTROL IN	LOW COST	1	SA
4-5	DB65-00326A	TERMINAL BLOCK	THERMAL FUSE;4P,PBT,4-TAB	1	SA
4-6	DB93-10942A	ASSY CONNECTOR WIRE	JUNGFRAU-PJT,MAIN TO T/B	1	SA
4-7	DB93-10918H	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-8	DB93-10943B	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-9	DB93-10943P	ASSY CONNECTOR WIRE	INV	1	SA
5	DB90-04385A	ASSY COVER CONTROL IN	VIVALDI,SSEC	1	SA
6	DB94-02960A	ASSY TRAY DRAIN	White,RH,550,Y,R410A,AQV12PWAN,SSEC	1	SA
6-1	DB63-02118A	TRAY DRAIN	VIVALDI,HIPS,2.5,96,690.6,-,VIVALDI BLACK,SSEC	1	SNA
6-2	DB61-03672A	BLADE-V	VIVALDI-1,PP,BLACK,T2.0,SSEC	2	SA
6-3	DB66-01559A	BLADE-H	MALDIVES-1,ABS,WHITE,3t	1	SA
6-4	DB69-00839A	CUSHION-TRAY RH	SS-P/J,EPS,-,-,-,-,3g,WHITE,SSEC,RAC,AS	1	SNA
6-5	DB31-00371C	MOTOR STEP	24BYJ48,DC15V	1	SA
6-6	DB63-02121A	TRAY-STABILIZER	VIVALDI,HIPS,2.5,34.5,580,-,VIVALDI BLACK,SSEC	1	SNA
6-7	DB94-00458D	ASSY HOSE DRAIN	WHITE,LFET,550,Y,R410,-,-,SSEC	1	SA
7	DB96-11359B	ASSY EVAP TOTAL	VIVALDI 1(INV) 12K,SSEC	1	SA
7-1	DB61-03650A	HOLDER-EVAP	VIVALDI,HIPS,2,41.8,146.9,SR-03101R,SSEC	1	SNA
7-2	DB96-11326C	ASSY TUBE EVAP IN	SSEC	1	SA
7-3	DB96-11683C	ASSY TUBE EVAP OUT	VIVALDI,SSEC	1	SA
7-3	DB96-11107E	ASSY EVAP SUB	VIVIALDI-1,SSEC	1	SA
7-4	DB96-11120R	ASSY EVAP MAIN	VIVALDI-1,SSEC	1	SA
8	DB94-01874A	ASSY-CROSS FAN	VIVALDI,SSEC	1	SA
8-1	DB94-00455B	ASSY-RUBBER BEARING	WW-PJT,CR,BLK SSEC	1	SA
9	DB31-00531D	MOTOR FAN	Y4S476A39,VIVALDI-PJT,50HZ,230V,Eclass	1	SA
10	DB93-11115K	ASSY REMOCON	ARH-5009,MALDIVES, BORACAY, MAX, NEO FORTE	1	SA

Parts List

NO.	CODE NO.	Description	Specitification	Q' ty AR12FSFPKGMNZE	SA/SNA
1	DB94-01921M	ASSY BACK BODY	white,VIVALDI,SSEC	1	SA
1-1	DB61-03656C	BODY BACK	VIVALDI,HIPS,2.5,-,820,286,WHITE,SSEC	1	SNA
1-2	DB61-03651B	SUPPORT-EVAP RH	VIVALDI,ABS,2,52.2,130.1,SSEC	1	SA
1-3	DB61-03666A	HOLDER-PIPE	VIVALDI,HIPS,T2.0,63.5,183.7,SC-06106R,SSEC	1	SA
2	DB97-02851C	ASSY-PLATE HANGER	vivaldi 1,ssec	1	SA
3	DB92-02280U	ASSY PANEL FRONT	INV,WHITE,R410,SSEC	1	SA
3-1	DB64-02561A	PANEL FRONT	MODIVES-1,HIPS,3,820,WHITE	1	SA
3-2	DB63-02760F	FILTER-PRE	Maldives 1,pp,2.2,302.5,280.5,BLUE,SSEC	2	SA
3-3	DB97-11240C	ASSY COVER TERMINAL	VIVALDI 1,-,-,-,SSEC	1	SA
3-4	DB63-02119A	COVER-PBA	VIVALDI,SGCC-M,0.4,103.6,139.6,-,SC-06106R,SSEC	1	SNA
3-5	DB64-02550C	DECORATION-PANEL	MALDIVES1,HIPS,W42,L783.8,Silver SPRAY,SSEC	1	SNA
3-6	DB93-10861A	ASSY PCB SUB-DISPLAY	MALDIVE-PJT,SSEC,N	1	SA
3-7	DB64-02553C	GRILLE-AIR INLET	MALDIVES1,HIPS,T2.0,W196.6,L779.9,SC-06106R DA-WHITE,SSEC	1	SA
3-8	DB90-06134B	ASSY COVER DISPLAY	AQV12PSB,SSEC	1	SA
3-8-1	DB63-02762B	COVER DISPLAY	maldives 1,HIPS,T2.0,74.3	1	SA
4	DB93-12914E	ASSY CONTROL IN	INV	1	SNA
4-1	DB93-12827D	ASSY PCB MAIN-IN	STD#4,INV,AC FAN,SPI,Y,SMPS,TOP253P	1	SA
4-2	3502-000115	SSR	12V,2A,1ms,1ms	1	SA
4-3	DB95-04570B	ASSY THERMISTOR IN	BORACAY	1	SA
4-4	DB61-04578A	CASE CONTROL IN	LOW COST	1	SA
4-5	DB65-00326A	TERMINAL BLOCK	THERMAL FUSE;4P,PBT,4-TAB	1	SA
4-6	DB93-10942A	ASSY CONNECTOR WIRE	JUNGFRAU-PJT,MAIN TO T/B	1	SA
4-7	DB93-10918H	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-8	DB93-10943B	ASSY CONNECTOR WIRE	MALDIVE	1	SA
4-9	DB93-10943P	ASSY CONNECTOR WIRE	INV	1	SA
5	DB90-04385A	ASSY COVER CONTROL IN	VIVALDI,SSEC	1	SA
6	DB94-02960A	ASSY TRAY DRAIN	White,RH,550,Y,R410A,AQV12PWAN,SSEC	1	SA
6-1	DB63-02118A	TRAY DRAIN	VIVALDI,HIPS,2.5,96,690.6,-,VIVALDI BLACK,SSEC	1	SNA
6-2	DB61-03672A	BLADE-V	VIVALDI-1,PP,BLACK,T2.0,SSEC	2	SA
6-3	DB66-01559A	BLADE-H	MALDIVES-1,ABS,WHITE,3t	1	SA
6-4	DB69-00839A	CUSHION-TRAY RH	SS-P/J,EPS,-,-,-,-,3g,WHITE,SSEC,RAC,AS	1	SNA
6-5	DB31-00371C	MOTOR STEP	24BYJ48,DC15V	1	SA
6-6	DB63-02121A	TRAY-STABILIZER	VIVALDI,HIPS,2.5,34.5,580,-,VIVALDI BLACK,SSEC	1	SNA
6-7	DB94-00458D	ASSY HOSE DRAIN	WHITE,LFET,550,Y,R410,-,-,SSEC	1	SA
7	DB96-11359B	ASSY EVAP TOTAL	VIVALDI 1(INV) 12K,SSEC	1	SA
7-1	DB61-03650A	HOLDER-EVAP	VIVALDI,HIPS,2,41.8,146.9,SR-03101R,SSEC	1	SNA
7-2	DB96-11326C	ASSY TUBE EVAP IN	SSEC	1	SA
7-3	DB96-11683C	ASSY TUBE EVAP OUT	VIVALDI,SSEC	1	SA
7-3	DB96-11107E	ASSY EVAP SUB	VIVIALDI-1,SSEC	1	SA
7-4	DB96-11120R	ASSY EVAP MAIN	VIVALDI-1,SSEC	1	SA
8	DB94-01874A	ASSY-CROSS FAN	VIVALDI,SSEC	1	SA
8-1	DB94-00455B	ASSY-RUBBER BEARING	WW-PJT,CR,BLK SSEC	1	SA
9	DB31-00531D	MOTOR FAN	Y4S476A39,VIVALDI-PJT,50HZ,230V,Eclass	1	SA
10	DB93-11115K	ASSY REMOCON	ARH-5009,MALDIVES, BORACAY, MAX, NEO FORTE	1	SA

Outdoor Unit

AR09FSFPKGMXET
AR12FSFPKGMXET
AR09FSFPKGMXZE
AR12FSFPKGMXZE



■ Parts List

NO	Material	Description	Specfication	Q'TY	SA/SNA
				AR09FSFPKGMXET	
1	DB90-07137B	ASSY CABI FRONT	AQ18UUBMID, SSEC	1	SA
2	DB63-02588B	GUARD FAN	SI-PJT, PP, T2.5, 512.2, 459.2, SSE	1	SA
3	DB90-07141A	ASSY BASE OUT	maldives1, SSEC	1	SA
4	DB90-05738B	ASSY BRACKET-VALVE	AQ18UUAMID, RAC, SSEC	1	SA
5	DB31-00564B	MOTOR FAN	SIC-67FV-F135-8, SI-PJT, MAX 0.5	1	SA
6	DB67-01042A	FAN-PROPELLER	NON-INV, PP-GF20-PD20, OD410	1	SA
7	6009-001001	SCREW-SPECIAL	TH, WT, M4, L10	1	SNA
8	DB60-30020A	NUT-HEXAGON FLANGE	M6, Zn-Ni, MSWR3, CLOCKW	1	SA
9	DB90-06219B	ASSY BRACKET MOTOR	MALDIVES1, SSEC	1	SA
10	DB90-07138A	ASSY CABINET-UPPER	AQ18UUBMID, RAC, SSEC	1	SA
11	DB94-02998B	ASSY PARTITION	SI-PJT, SSEC	1	SA
12	DB27-00041B	COIL CHOKE	Forte, 5mH, 10%, 120mOHM, , 10A, 94	1	SA
13	DB96-15014B	ASSY COND	SI, SSEC	1	SA
14	DB90-07144A	ASSY-SCREEN COND BAR	SI-PJT, SSEC	1	SA
15	DB90-05856A	ASSY CABI RH	AQ18UUBMID, SSEC	1	SA
16	DB90-07140A	ASSY COVER-VALVE	AQ18UUBMID, ASSY	1	SA
17	DB90-05857A	ASSY CABI LF	AQ18UUBMID, SSEC	1	SA
18	UG9A090FUBJPSS	COMP	RCP, 39, F, R410A	1	SA
19	6021-001142	YEL	M5, ZPC(WHT), CWRCH18A, P1.25	1	SA
20	DB60-30020A	NUT-HEXAGON FLANGE	M6, Zn-Ni, MSWR3, CLOCKW	1	SA
21	DB63-00817B	GASKET	A/C model, SIR, T0.8, 26.0, L80, A/C m	1	SA
22	DB63-02310A	COVER TERMINAL	SABIC N1250, 2.5, BLACK, no	1	SA
23	DB63-02426A	GROMMET ISOLATOR	VIVALDI2, NR, 37, 15, INV	1	SNA
24	DB63-02863A	FELT-COMP UPPER OUT	SI, FELT+PVC, T5(FELT)	1	SA
25	DB63-02860A	FELT-COMP SIDE OUT	SI, FELT+PVC, T5(FELT)+	1	SA
26	DB63-02861A	FELT-COMP SIDE	SI, FELT+PVC, T5(FELT)	1	SA
27	DB63-02864A	FELT-COMP BASE	SI, FELT, T5, 243.3, 274.5, GR	1	SA
28	DB93-13816D	ASSY CONTROL OUT	HP, INV, 9/12/18K, 50HZ, 150	1	SA
28-1	DB93-12849A	ASSY CONNECTOR WIRE	AQV09PSBX, AWG#16	1	SA
28-2	DB93-10952E	ASSY PCB MAIN-OUT	SI, 9K/12K/18K, Y, SMPS, 5	1	SA
28-3	DB95-04637D	ASSY THEMISTOR	CAC, SSEC	1	SA
28-4	DB61-04658A	CASE CONTROL-OUT	WB, PC+ABS, T2, 183.5, 256.	1	SA
28-5	DB93-09497C	ASSY CONNECTOR WIRE	MALDIVE, SSEC	1	SA
29	DB96-18282A	ASSY-TUBE 4WAY	SI, SSEC	1	SA
30	DB96-18254A	ASSY-TUBE EEV	JUNGFRAU FLG, SSEC	1	SA
30-1	DB62-05932B	VALVE-COIL EXPAN	., DC12V, 700	1	SA
30-2	DB62-04266A	VALVE EXPAN	SUS, 500, 1.4	1	SA
31	DB97-02066C	ASSY ACCESSORY	HP, NO, 18000, NO, -, N, SH18AW	1	SA
31-1	DB73-20134A	RUBBER-LEG	NBR, BLACK	4	SA
31-2	DB67-20011A	DRAIN-PLUG OUT	ASH-1814ER, PP, WHITE	1	SNA

■ Parts List

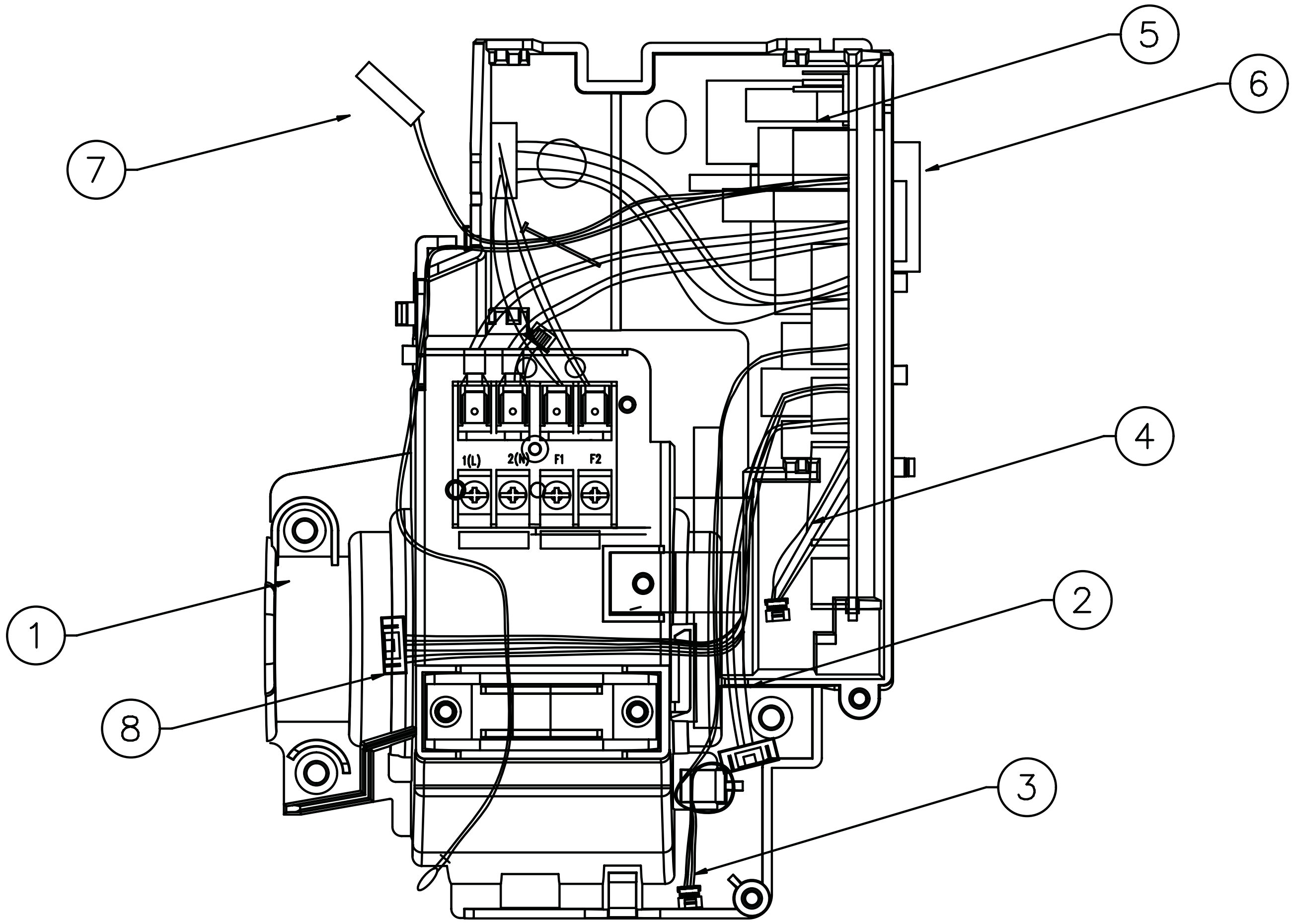
NO	Material	Description	Specfication	Q'TY	SA/SNA
				AR12FSFPKGMXET	
1	DB90-07137B	ASSY CABI FRONT	AQ18UUBMID,SSEC	1	SA
2	DB63-02588B	GUARD FAN	SI-PJT,PP,T2.5,512.2,459.2,SSE	1	SA
3	DB90-07141A	ASSY BASE OUT	maldives1,SSEC	1	SA
4	DB90-05738B	ASSY BRACKET-VALVE	AQ18UUAMID,RAC,SSEC	1	SA
5	DB31-00564B	MOTOR FAN	SIC-67FV-F135-8,SI-PJT,MAX 0.5	1	SA
6	DB67-01042A	FAN-PROPELLER	NON-INV,PP-GF20-PD20,OD410	1	SA
7	6009-001001	SCREW-SPECIAL	TH,WT,M4,L10	1	SNA
8	DB60-30020A	NUT-HEXAGON FLANGE	M6,Zn-Ni,MSWR3,CLOCKW	1	SA
9	DB90-06219B	ASSY BRACKET MOTOR	MALDIVES1,SSEC	1	SA
10	DB90-07138A	ASSY CABINET-UPPER	AQ18UUBMID,RAC,SSEC	1	SA
11	DB94-02998B	ASSY PARTITION	SI-PJT,SSEC	1	SA
12	DB27-00041B	COIL CHOKE	Forte,5mH,10%,120mOHM,,10A,94	1	SA
13	DB96-15014B	ASSY COND	SI,SSEC	1	SA
14	DB90-07144A	ASSY-SCREEN COND BAR	SI-PJT,SSEC	1	SA
15	DB90-05856A	ASSY CABI RH	AQ18UUBMID,SSEC	1	SA
16	DB90-07140A	ASSY COVER-VALVE	AQ18UUBMID,ASSY	1	SA
17	DB90-05857A	ASSY CABI LF	AQ18UUBMID,SSEC	1	SA
18	UG9A090FUBJPSS	COMP	RCP,39,F,R410A	1	SA
19	6021-001142	YEL	M5,ZPC(WHT),CWRCH18A,P1.25	1	SA
20	DB60-30020A	NUT-HEXAGON FLANGE	M6,Zn-Ni,MSWR3,CLOCKW	1	SA
21	DB63-00817B	GASKET	A/C model,SIR,T0.8,26.0,L80,A/C m	1	SA
22	DB63-02310A	COVER TERMINAL	SABIC N1250,2.5,BLACK,no	1	SA
23	DB63-02426A	GROMMET ISOLATOR	VIVALDI2,NR,37,15,INV	1	SNA
24	DB63-02863A	FELT-COMP UPPER OUT	SI,FELT+PVC,T5(FELT)	1	SA
25	DB63-02860A	FELT-COMP SIDE OUT	SI,FELT+PVC,T5(FELT)+	1	SA
26	DB63-02861A	FELT-COMP SIDE	SI,FELT+PVC,T5(FELT)	1	SA
27	DB63-02864A	FELT-COMP BASE	SI,FELT,T5,243.3,274.5,GR	1	SA
28	DB93-13816D	ASSY CONTROL OUT	HP,INV,9/12/18K,50HZ,150	1	SA
28-1	DB93-12849A	ASSY CONNECTOR WIRE	AQV09PSBX,AWG#16	1	SA
28-2	DB93-10952E	ASSY PCB MAIN-OUT	SI,9K/12K/18K,Y,SMPS,5	1	SA
28-3	DB95-04637D	ASSY THEMISTOR	CAC,SSEC	1	SA
28-4	DB61-04658A	CASE CONTROL-OUT	WB,PC+ABS,T2,183.5,256.	1	SA
28-5	DB93-09497C	ASSY CONNECTOR WIRE	MALDIVE,SSEC	1	SA
29	DB96-18282A	ASSY-TUBE 4WAY	SI,SSEC	1	SA
30	DB96-18254A	ASSY-TUBE EEV	JUNGFRAU FLG,SSEC	1	SA
30-1	DB62-05932B	VALVE-COIL EXPAN	.,DC12V,700	1	SA
30-2	DB62-04266A	VALVE EXPAN	SUS,500,1.4	1	SA
31	DB97-02066C	ASSY ACCESSORY	HP,NO,18000,NO,-,N,SH18AW	1	SA
31-1	DB73-20134A	RUBBER-LEG	NBR,BLACK	4	SA
31-2	DB67-20011A	DRAIN-PLUG OUT	ASH-1814ER,PP,WHITE	1	SNA

■ Parts List

NO	Material	Description	Specfication	Q'TY	SA/SNA
				AR09FSFPKGMXZE	
1	DB90-07137B	ASSY CABI FRONT	AQ18UUBMID,SSEC	1	SA
2	DB63-02588B	GUARD FAN	SI-PJT,PP,T2.5,512.2,459.2,SSE	1	SA
3	DB90-07141A	ASSY BASE OUT	maldives1,SSEC	1	SA
4	DB90-05738B	ASSY BRACKET-VALVE	AQ18UUAMID,RAC,SSEC	1	SA
5	DB31-00564B	MOTOR FAN	SIC-67FV-F135-8,SI-PJT,MAX 0.5	1	SA
6	DB67-01042A	FAN-PROPELLER	NON-INV,PP-GF20-PD20,OD410	1	SA
7	6009-001001	SCREW-SPECIAL	TH,WT,M4,L10	1	SNA
8	DB60-30020A	NUT-HEXAGON FLANGE	M6,Zn-Ni,MSWR3,CLOCKW	1	SA
9	DB90-06219B	ASSY BRACKET MOTOR	MALDIVES1,SSEC	1	SA
10	DB90-07138A	ASSY CABINET-UPPER	AQ18UUBMID,RAC,SSEC	1	SA
11	DB94-02998B	ASSY PARTITION	SI-PJT,SSEC	1	SA
12	DB27-00041B	COIL CHOKE	Forte,5mH,10%,120mOHM,,10A,94	1	SA
13	DB96-15014B	ASSY COND	SI,SSEC	1	SA
14	DB90-07144A	ASSY-SCREEN COND BAR	SI-PJT,SSEC	1	SA
15	DB90-05856A	ASSY CABI RH	AQ18UUBMID,SSEC	1	SA
16	DB90-07140A	ASSY COVER-VALVE	AQ18UUBMID,ASSY	1	SA
17	DB90-05857A	ASSY CABI LF	AQ18UUBMID,SSEC	1	SA
18	UG9A090FUBJPSS	COMP	RCP,39,F,R410A	1	SA
19	6021-001142	YEL	M5,ZPC(WHT),CWRCH18A,P1.25	1	SA
20	DB60-30020A	NUT-HEXAGON FLANGE	M6,Zn-Ni,MSWR3,CLOCKW	1	SA
21	DB63-00817B	GASKET	A/C model,SIR,T0.8,26.0,L80,A/C m	1	SA
22	DB63-02310A	COVER TERMINAL	SABIC N1250,2.5,BLACK,no	1	SA
23	DB63-02426A	GROMMET ISOLATOR	VIVALDI2,NR,37,15,INV	1	SNA
24	DB63-02863A	FELT-COMP UPPER OUT	SI,FELT+PVC,T5(FELT)	1	SA
25	DB63-02860A	FELT-COMP SIDE OUT	SI,FELT+PVC,T5(FELT)+	1	SA
26	DB63-02861A	FELT-COMP SIDE	SI,FELT+PVC,T5(FELT)	1	SA
27	DB63-02864A	FELT-COMP BASE	SI,FELT,T5,243.3,274.5,GR	1	SA
28	DB93-13816D	ASSY CONTROL OUT	HP,INV,9/12/18K,50HZ,150	1	SA
28-1	DB93-12849A	ASSY CONNECTOR WIRE	AQV09PSBX,AWG#16	1	SA
28-2	DB93-10952E	ASSY PCB MAIN-OUT	SI,9K/12K/18K,Y,SMPS,5	1	SA
28-3	DB95-04637D	ASSY THEMISTOR	CAC,SSEC	1	SA
28-4	DB61-04658A	CASE CONTROL-OUT	WB,PC+ABS,T2,183.5,256.	1	SA
28-5	DB93-09497C	ASSY CONNECTOR WIRE	MALDIVE,SSEC	1	SA
29	DB96-18282A	ASSY-TUBE 4WAY	SI,SSEC	1	SA
30	DB96-18254A	ASSY-TUBE EEV	JUNGFRAU FLG,SSEC	1	SA
30-1	DB62-05932B	VALVE-COIL EXPAN	.,DC12V,700	1	SA
30-2	DB62-04266A	VALVE EXPAN	SUS,500,1.4	1	SA
31	DB97-02066C	ASSY ACCESSORY	HP,NO,18000,NO,-,N,SH18AW	1	SA
31-1	DB73-20134A	RUBBER-LEG	NBR,BLACK	4	SA
31-2	DB67-20011A	DRAIN-PLUG OUT	ASH-1814ER,PP,WHITE	1	SNA

■ Parts List

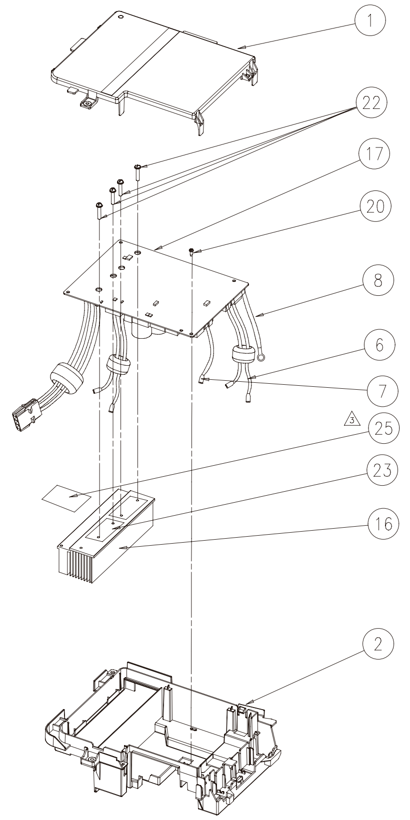
NO	Material	Description	Specfication	Q'TY	SA/SNA
				AR12FSFPKGMXZE	
1	DB90-07137B	ASSY CABI FRONT	AQ18UUBMID, SSEC	1	SA
2	DB63-02588B	GUARD FAN	SI-PJT, PP, T2.5, 512.2, 459.2, SSE	1	SA
3	DB90-07141A	ASSY BASE OUT	maldives1, SSEC	1	SA
4	DB90-05738B	ASSY BRACKET-VALVE	AQ18UUAMID, RAC, SSEC	1	SA
5	DB31-00564B	MOTOR FAN	SIC-67FV-F135-8, SI-PJT, MAX 0.5	1	SA
6	DB67-01042A	FAN-PROPELLER	NON-INV, PP-GF20-PD20, OD410	1	SA
7	6009-001001	SCREW-SPECIAL	TH, WT, M4, L10	1	SNA
8	DB60-30020A	NUT-HEXAGON FLANGE	M6, Zn-Ni, MSWR3, CLOCKW	1	SA
9	DB90-06219B	ASSY BRACKET MOTOR	MALDIVES1, SSEC	1	SA
10	DB90-07138A	ASSY CABINET-UPPER	AQ18UUBMID, RAC, SSEC	1	SA
11	DB94-02998B	ASSY PARTITION	SI-PJT, SSEC	1	SA
12	DB27-00041B	COIL CHOKE	Forte, 5mH, 10%, 120mOHM, , 10A, 94	1	SA
13	DB96-15014B	ASSY COND	SI, SSEC	1	SA
14	DB90-07144A	ASSY-SCREEN COND BAR	SI-PJT, SSEC	1	SA
15	DB90-05856A	ASSY CABI RH	AQ18UUBMID, SSEC	1	SA
16	DB90-07140A	ASSY COVER-VALVE	AQ18UUBMID, ASSY	1	SA
17	DB90-05857A	ASSY CABI LF	AQ18UUBMID, SSEC	1	SA
18	UG9A090FUBJPSS	COMP	RCP, 39, F, R410A	1	SA
19	6021-001142	YEL	M5, ZPC(WHT), CWRCH18A, P1.25	1	SA
20	DB60-30020A	NUT-HEXAGON FLANGE	M6, Zn-Ni, MSWR3, CLOCKW	1	SA
21	DB63-00817B	GASKET	A/C model, SIR, T0.8, 26.0, L80, A/C m	1	SA
22	DB63-02310A	COVER TERMINAL	SABIC N1250, 2.5, BLACK, no	1	SA
23	DB63-02426A	GROMMET ISOLATOR	VIVALDI2, NR, 37, 15, INV	1	SNA
24	DB63-02863A	FELT-COMP UPPER OUT	SI, FELT+PVC, T5(FELT)	1	SA
25	DB63-02860A	FELT-COMP SIDE OUT	SI, FELT+PVC, T5(FELT)+	1	SA
26	DB63-02861A	FELT-COMP SIDE	SI, FELT+PVC, T5(FELT)	1	SA
27	DB63-02864A	FELT-COMP BASE	SI, FELT, T5, 243.3, 274.5, GR	1	SA
28	DB93-13816D	ASSY CONTROL OUT	HP, INV, 9/12/18K, 50HZ, 150	1	SA
28-1	DB93-12849A	ASSY CONNECTOR WIRE	AQV09PSBX, AWG#16	1	SA
28-2	DB93-10952E	ASSY PCB MAIN-OUT	SI, 9K/12K/18K, Y, SMPS, 5	1	SA
28-3	DB95-04637D	ASSY THEMISTOR	CAC, SSEC	1	SA
28-4	DB61-04658A	CASE CONTROL-OUT	WB, PC+ABS, T2, 183.5, 256.	1	SA
28-5	DB93-09497C	ASSY CONNECTOR WIRE	MALDIVE, SSEC	1	SA
29	DB96-18282A	ASSY-TUBE 4WAY	SI, SSEC	1	SA
30	DB96-18254A	ASSY-TUBE EEV	JUNGFRAU FLG, SSEC	1	SA
30-1	DB62-05932B	VALVE-COIL EXPAN	., DC12V, 700	1	SA
30-2	DB62-04266A	VALVE EXPAN	SUS, 500, 1.4	1	SA
31	DB97-02066C	ASSY ACCESSORY	HP, NO, 18000, NO, -, N, SH18AW	1	SA
31-1	DB73-20134A	RUBBER-LEG	NBR, BLACK	4	SA
31-2	DB67-20011A	DRAIN-PLUG OUT	ASH-1814ER, PP, WHITE	1	SNA

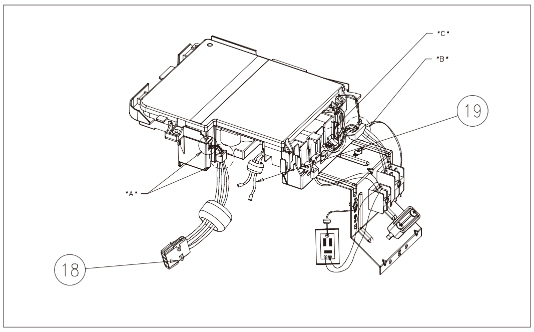


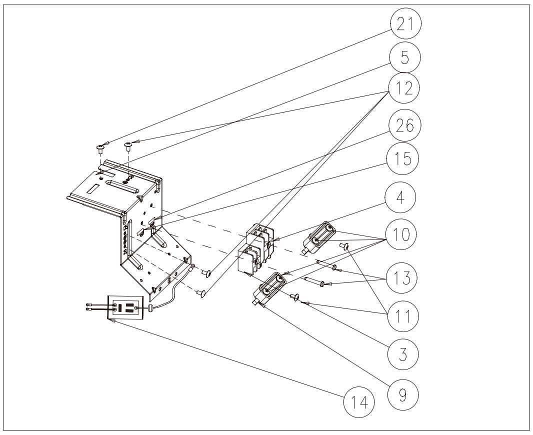
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	ASSY CONTROL IN CODE		DB93-12914E	
	AR09/12FSFPKGMNET AR09/12FSFPKGMNZE		MALDIVE+ 9~12K H/P MPI无 非恶劣	
NO	NAME	SPEC	CODE-NO	QTY
1	ASSY CASE CONTROL IN	MALDIVE	DB90-06932A	1
2	MAIN PBA TO DISPLAY	10 PIN TO 9 PIN	DB93-10918H	1
3	ASSY C/W LOUVER	5 PIN,250mm,WHITE	DB93-04688B	0
4	MPI WIRE	4 PIN,100mm	DB93-04695B	0
5	ASSY PCB MAIN	MALDIVE1 HIGH EEV	DB93-12827B	1
6	LABEL BAR CODE	45,15,E-PASS	DB68-02809A	1
7	ASS'Y THERMISTOR	3%,BLK,SMH200,WHT	DB95-04570B	1
8	ASSY CONNECTOR WIRE	FJM WIRE	DB93-10943H	1
9	ASSY CONNECTOR WIRE	485 CONNECTOR WIRE	DB93-10943P	1

■ AR09(12)FSFPKGMXET/AR09(12)FSFPKGMXZE







NO	CODE-NO	NAME	SPEC	QTY
ASSY CONTROL OUT CODE				DB93-13816D
适用型号				BLDC FAN
NO	CODE-NO	NAME	SPEC	QTY
1	DB61-04659A	CASE CONTROL-COVER	SI	1
2	DB61-04658A	CASE CONTROL-BASE	SI/OI	1
3	DB65-00061H	TERMINAL BLOCK	TERMINAL BLOCK-ASSY	1
4	DB65-00298B	TERMINAL BLOCK	TERMINAL BLOCK-ASSY	1
5	DB61-04324A	PLATE-CONTROL OUT	SI	1
6	DB93-09495E	WIRE-POWER	AWG16,BRN,SKYBLU	0
	DB93-09495G	WIRE-POWER	AWG16,BRN,SKYBLU	1
7	DB93-09496A	WIRE-COMUNICATION	AWG22,RED,BLU	1
8	DB93-09494A	WIRE-EARTH	AWG20,GRNYEL	0
	DB93-09494C	WIRE-EARTH	AWG20,GRNYEL	1
9	DB61-00250A	HOLDER-WIRE CLAMP	HOLDER-WIRE CLAMP	2
10	6002-000214	SCREW	TH,+,-,1,M4.0,L16,ZPC(BLK)	4
11	6001-001054	SCREW	M4,L25	2
12	6009-001001	SCREW	TH+	3
13	6002-000555	SCREW	M4,L25	2
14	DB95-01712L	ASSY NOISE ABSORBER	*	0
	DB95-01712M	ASSY NOISE ABSORBER	*	1
15	DB98-33292A	LABEL	COMM	1
16	DB62-09724A	HEAT SINK	OI	1
	DB62-09725A	HEAT SINK	SI	0
17	DB93-10952A	ASSY PCB MAIN	SI	1
18	DB93-09497B	WIRE-COMP	AWG16,RED,BLU,YEL	0
	DB93-09497C	WIRE-COMP	AWG16,RED,BLU,YEL	1
19	DB93-09493B	WIRE-REACTOR	AWG16,WHT	0
	DB93-09493C	WIRE-REACTOR	AWG16,WHT	1
20	6002-000630	SCREW	PH +	1
21	6002-000527	SCREW	M4,L10	1
22	DB91-00306A	ASSY-SCREW MACHINE	M3,L16	4
23	0205-001027	THERAL GREASE	NYLON66	2g
24	DB65-10088D	CABLE-TIE		0
25	DB62-04956E	INSULATION-COND IN		1
26	DB98-33293A	LABEL	POWER	1

◙ New Function [Indoor Terminal Block Safety Device]

1.Thermal Fuse is installed in Terminal Block as below.

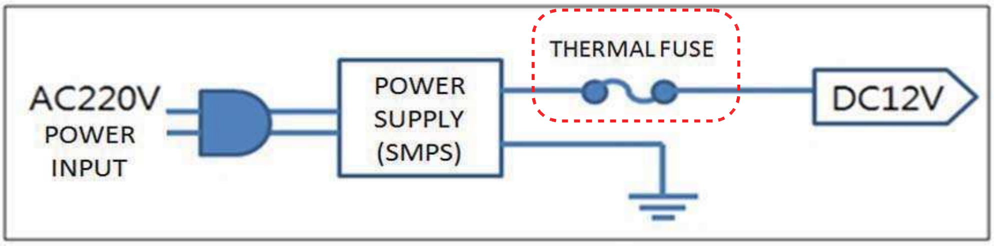
(Thermal Fuse is used to prevent PL caused by a defective connection of indoor and outdoor units)





2. Thermal Fuse is opened when internal temperature of Terminal Block goes to a certain point due to Tracking caused by a defective connection of indoor and outdoor units.

- When Thermal Fuse is opened, Main PBA (DC12V) is turned off and the indoor unit does not operate. (There is no problem with Main PBA in this case)
- In the above case, the change of all-in-one Terminal Block will make Main PBA operate again.



Circuit Block

3. Measurement method of fair/defective thermal fuse



Fair



Defective

■ Wire connecting the indoor unit terminal blocks

1. Terminal press of Ring terminal shall be set facing up before connecting wire.



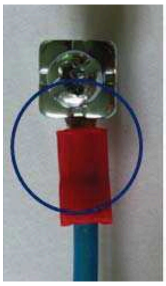


Is inverted



Terminal has been cut.

2. There shall be no empty space between Ring terminal and Screw after Clamp.
   If not, there exists a possibility of fire which can be caused by electric heat in the connecting part.



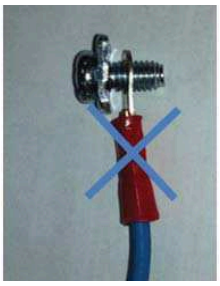
①



②



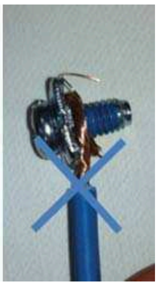
③



④



⑤



⑥

①,② : Good

③ Bad : Ring terminal is connected reversely

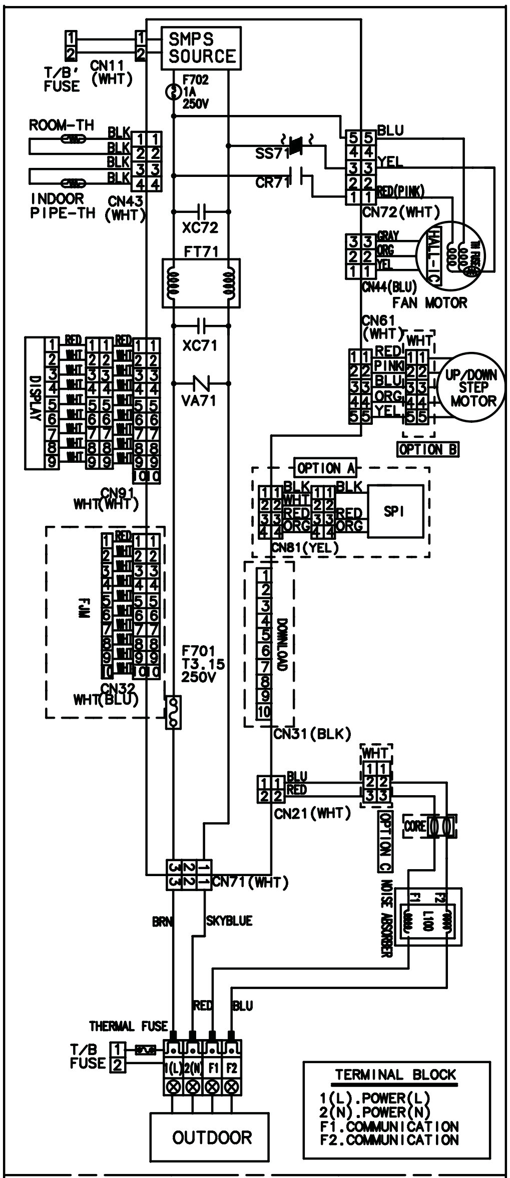
④ Bad : Not clamped Screw

⑤ Bad : In the gap between Ring terminal & Screw

⑥ Bad : Unused Ring Terminal

7. Wiring Diagram

7-1 Indoor Unit



ERROR MODE			DESCRIPTION
AR***			
Oper.	Timer	Good Sleep or SPI (OPTION A)	
×	○	×	Indoor room temp sensor error
○	○	×	Evap in temp sensor error
×	×	○	Fan error(indoor)
○	○	○	EEPROM error
○	○	○	Option error

● LED ON
○ LED BLINKING
× LED OFF

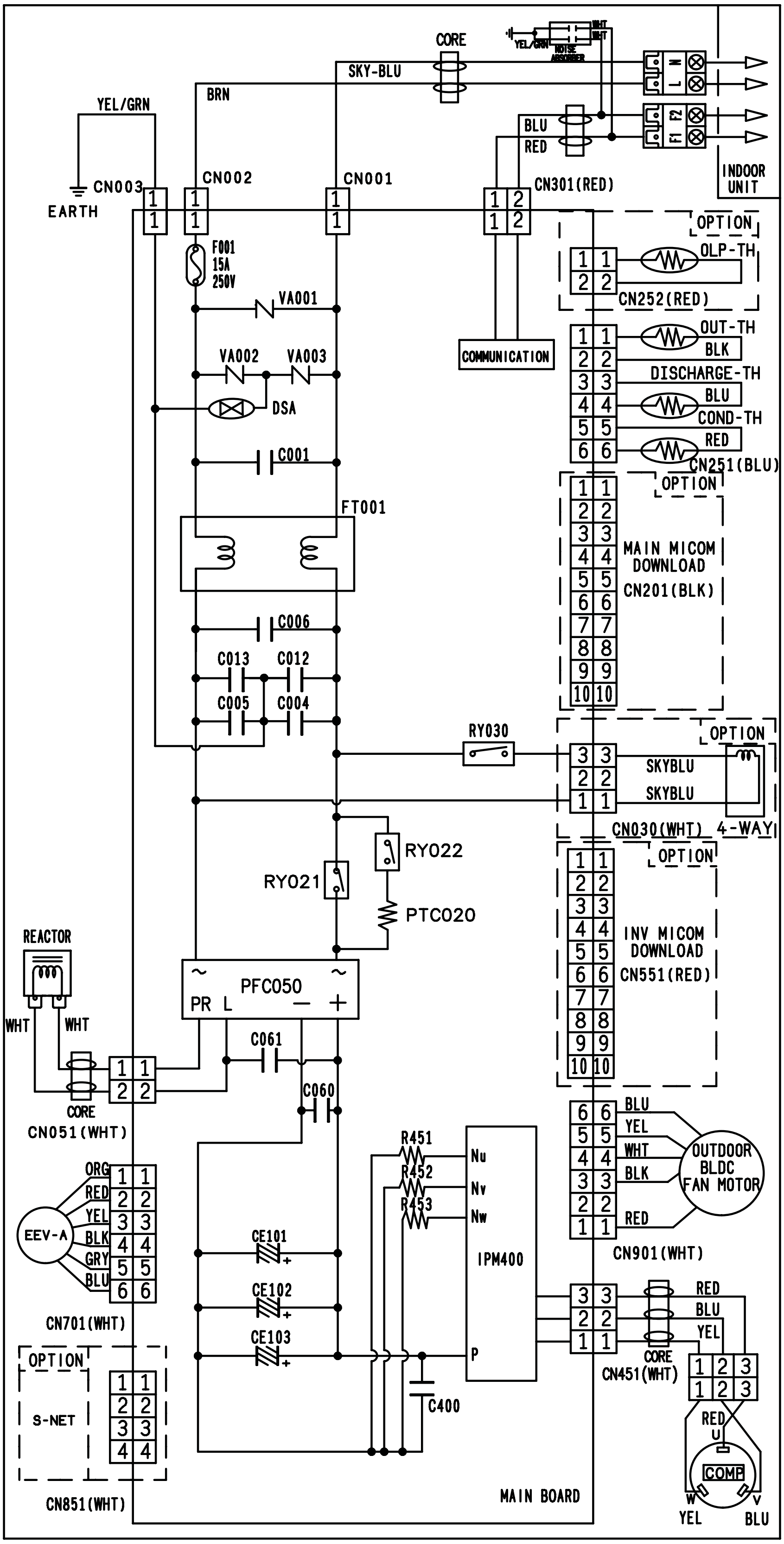
OPTION	DESCRIPTION
OPTION A	SPI OPTION
OPTION B	STEP MOTOR WIRE
OPTION C	EMI OPTION

* Note *
If the Set doesn't work (No power), check the Thermal fuse of Terminal block OPEN or SHORT with Multimeter.
(Measure the Thermal fuse housing PIN#1 ~ 2 : OPEN(disconnection) → defective product)

CODE NO:DB68-03448A	INDOOR-UNIT

7-2 Outdoor Unit

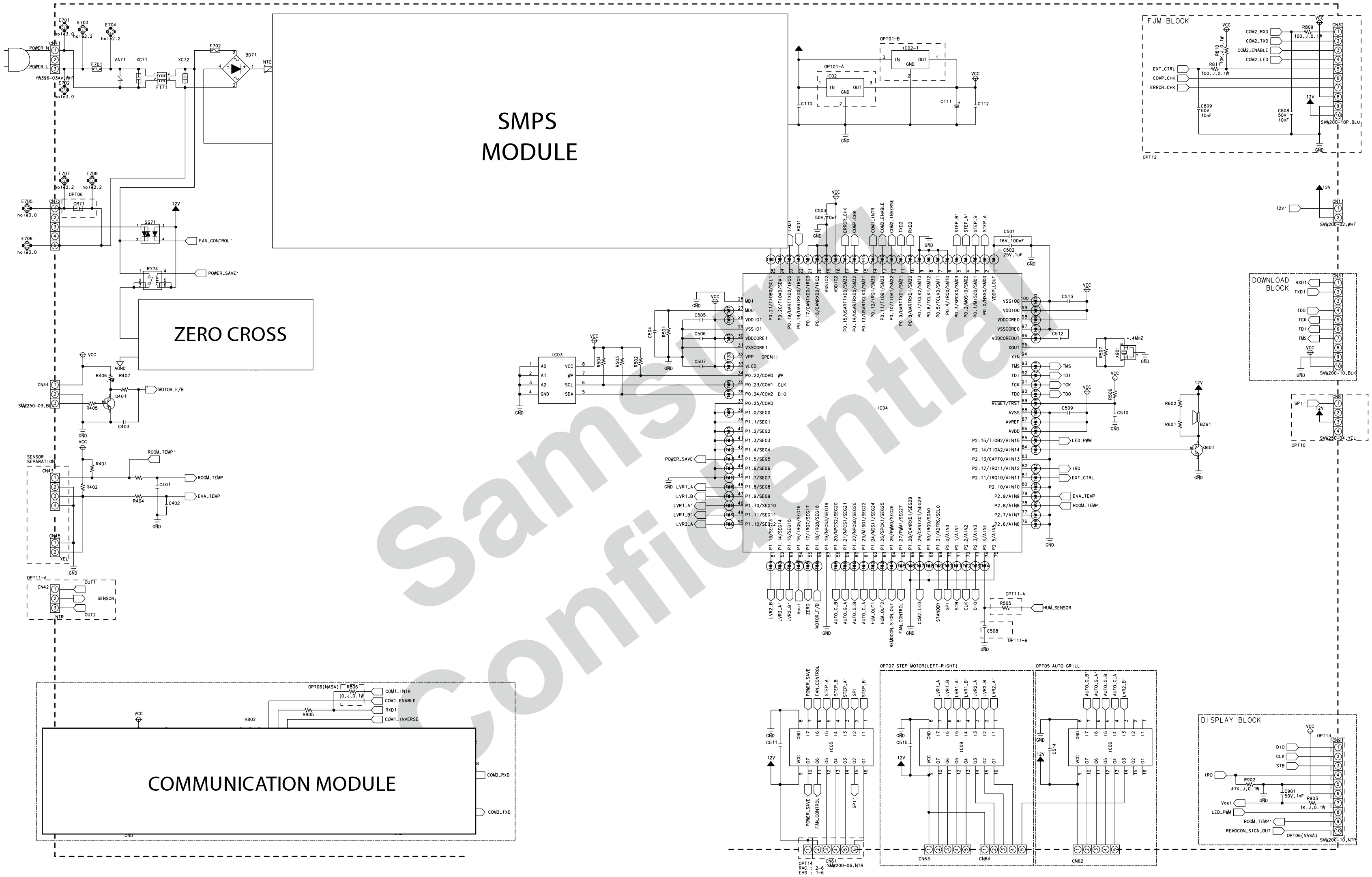
AR09/12FSFPKGMNET
AR09/12FSFPKGMNZE



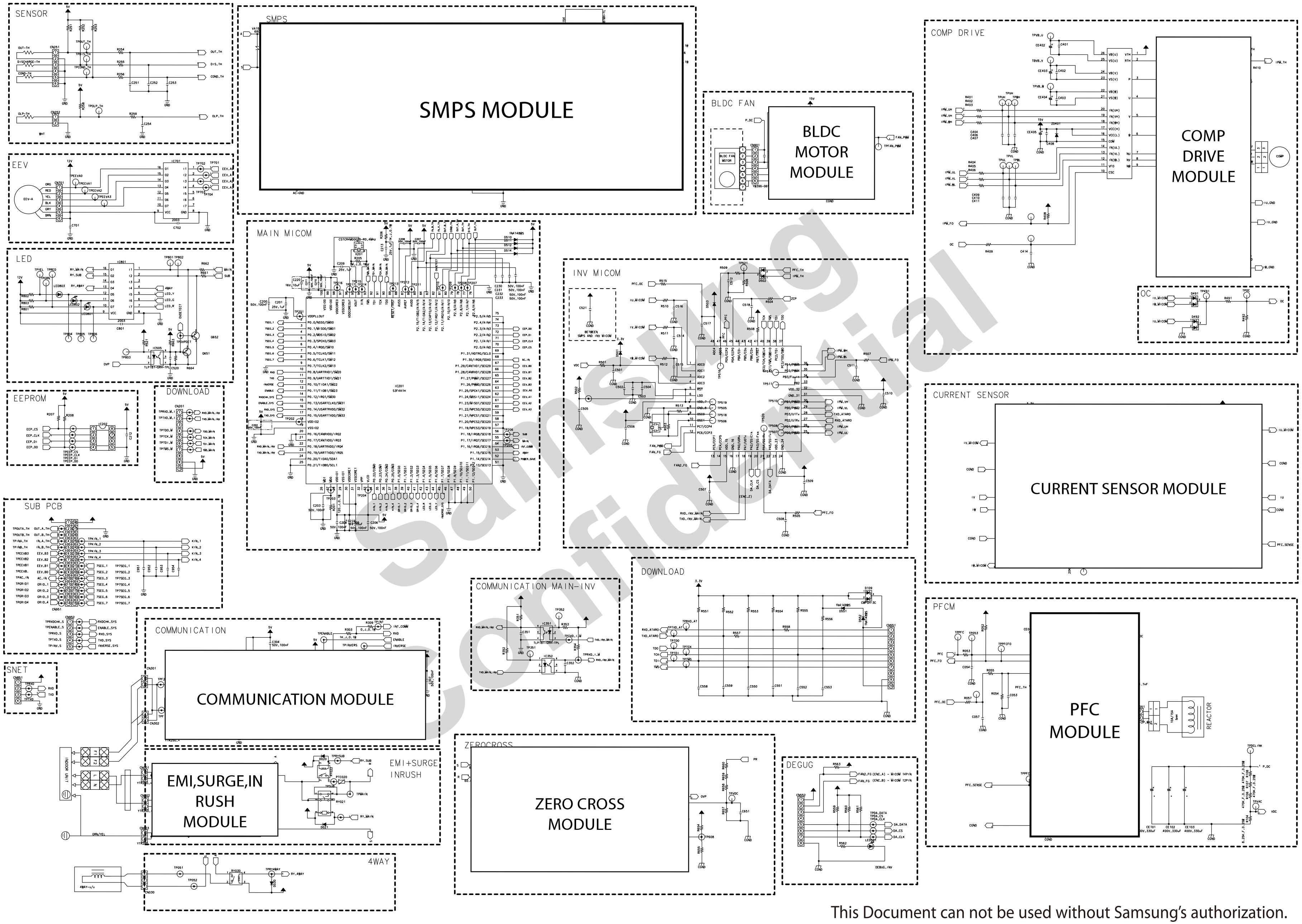
This Document can not be used without Samsung's authorization.

8-1 Indoor Unit

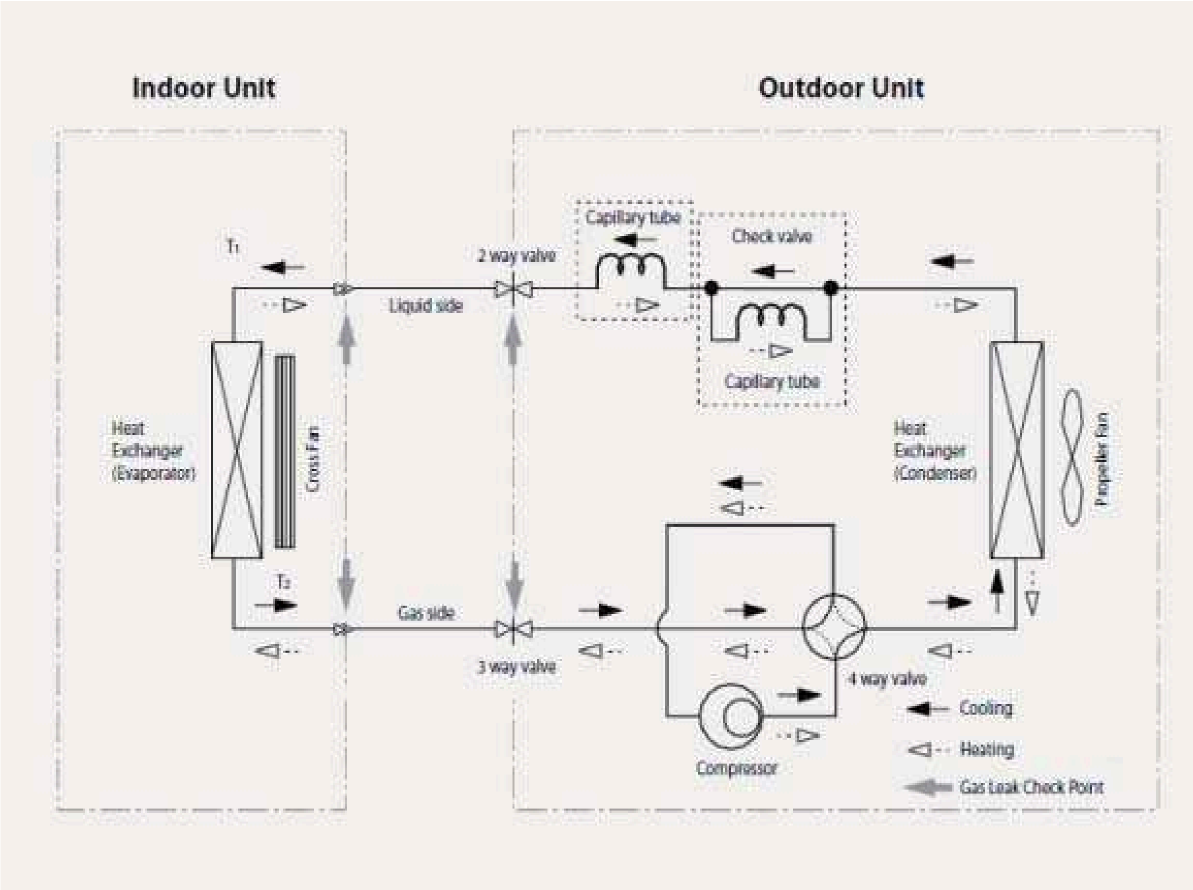
■ AR09(12)FSFPKGMNET/AR09(12)FSFPKGMNZE



■ AR09(12)FSFPKGMNET/AR09(12)FSFPKGMNZE

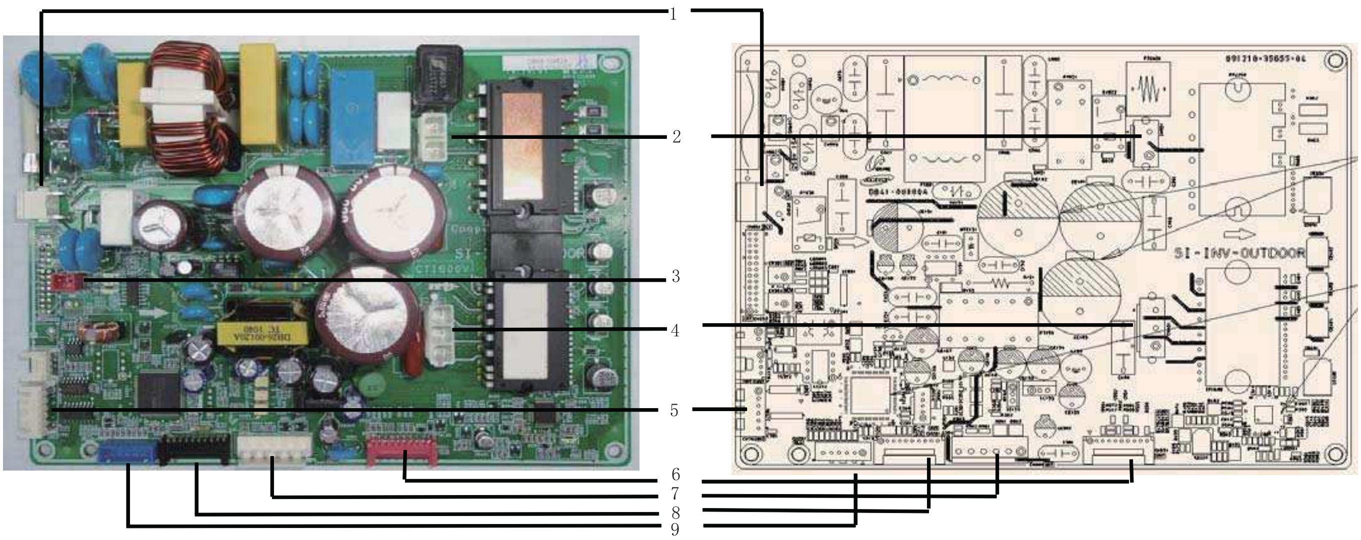


9 Refrigerating Cycle Diagram



10-2 Outdoor PCB

⚠ The red number connecter is not used.



1.4WAY

2.CN051-REACTOR

3.CN301-485 communication

- #1 F1
- #2 F2

4.CN451-COMP

- #1 W phase
- #2 V phase
- #3 U phase

5.CN701-EEV

- #1 EEV signal
- #2 EEV signal
- #3 EEV signal
- #4 EEV signal
- #5,6 12V

6.CN551-INV MICOM DOWNLOAD

7.CN901-BLDC FAN

8.CN201-MAIN MICOM DOWNLOAD

9.CN251-SENSOR

- #1 OUTDOOR TEMPERATURE
- #2 GND
- #3 DISCHARGE TEMPERATURE
- #4 GND
- #5 COND TEMPERATURE
- #6 GND

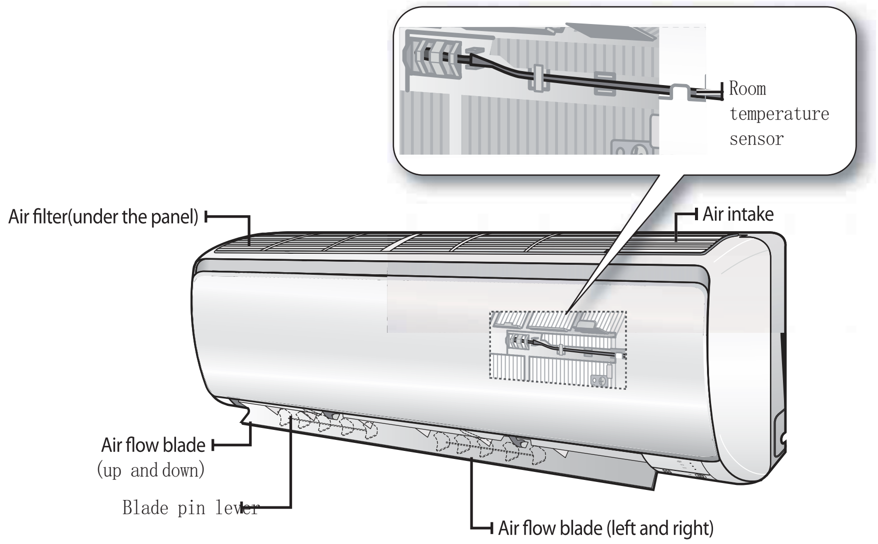
11. Operating Instructions

11-1 Name of Each Part

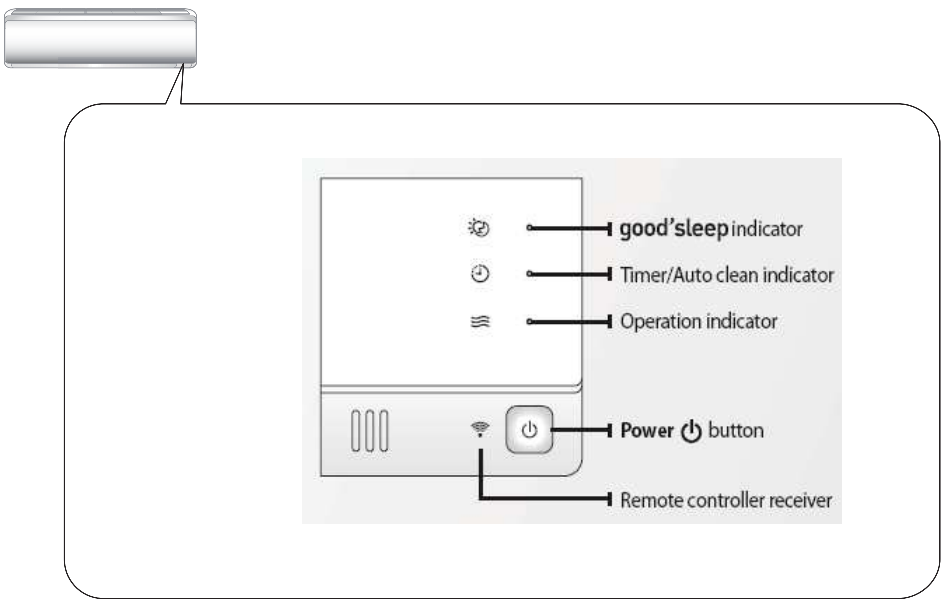
11-1-1 Indoor Unit

The design and shape are subject to change according to the model.

Main parts

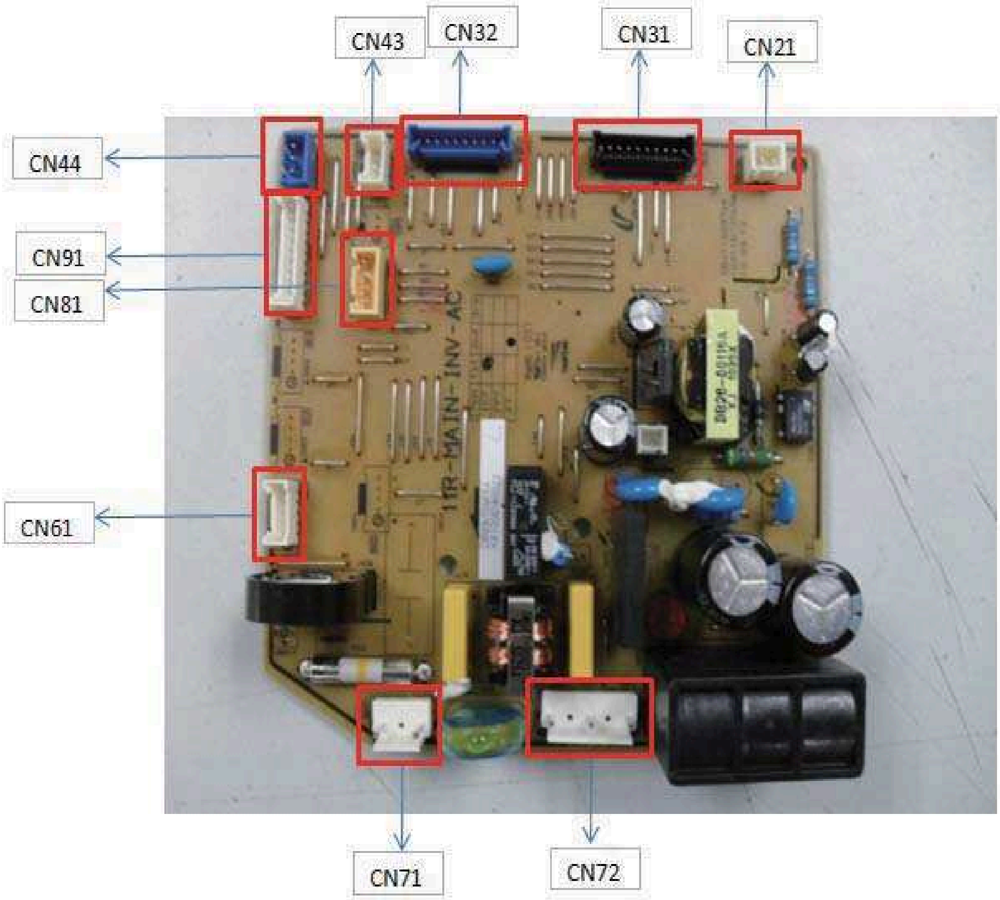


Display



10-1 Indoor PCB

AR09(12)FSFPKGMNET/AR09(12)FSFPKGMNZE



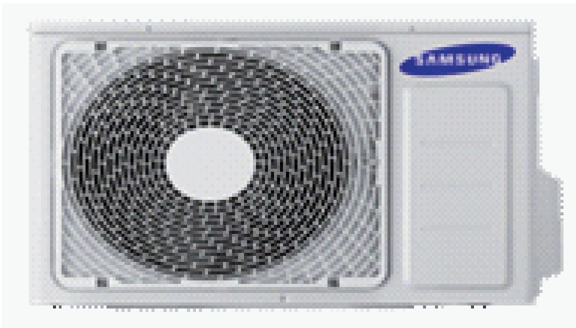
1. CN21-COMMUNICATION
2. CN31-DOWNLOAD
3. CN32-FJM
4. CN43-TEMPRATURE SENSOR
5. CN44-FAN MOTOR FEEDBACK
6. CN91-DISPLAY
7. CN81-MPI
8. CN61-STEP MOTOR
9. CN71-POWER IN
10. CN72-FAN MOTOR

11-1-1 Indoor Unit



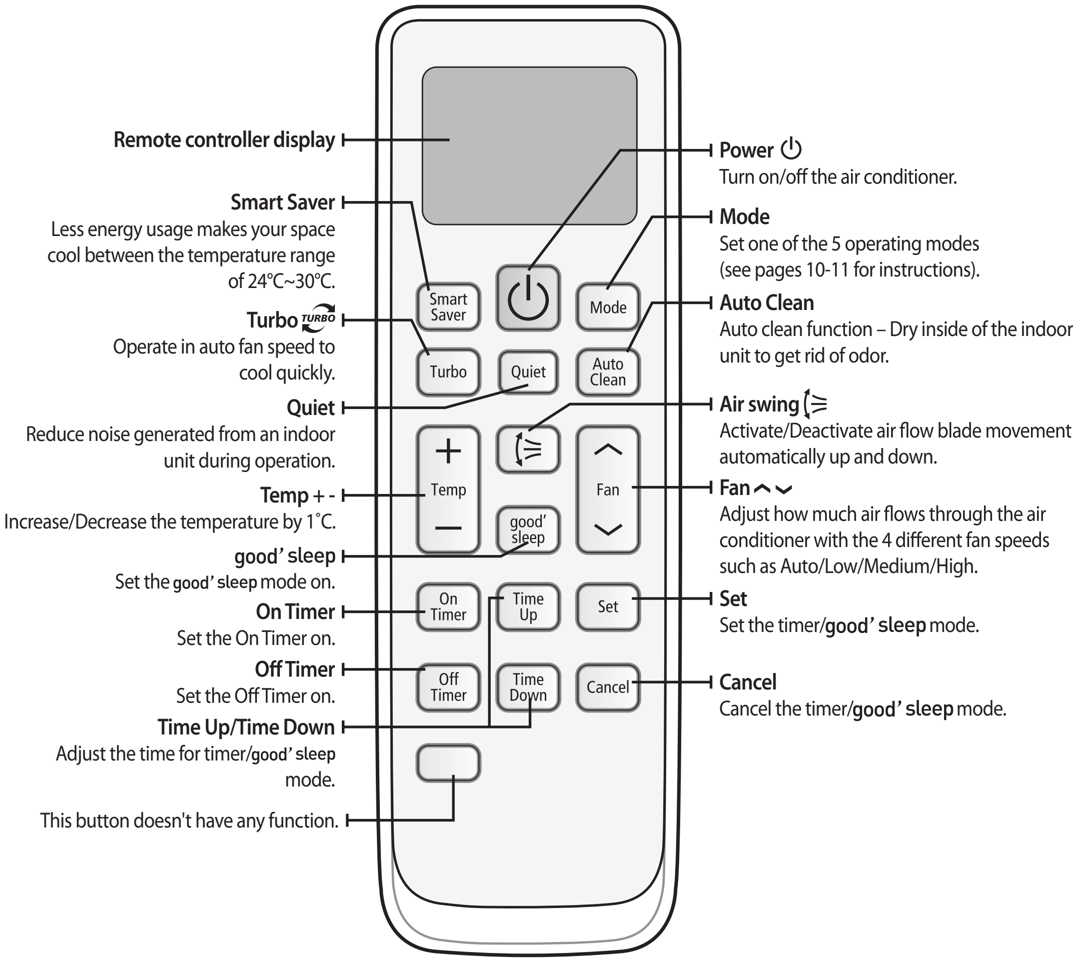
AR09(12)FSFPKGMNET
AR09(12)FSFPKGMNZE

11-1-2 Outdoor Unit



AR09(12)FSFPKGMXET
AR09(12)FSFPKGMXZE

11-2 Wireless Remote Control-Buttons and Display



12. Troubleshooting

12-1 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 5 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

No	Operation of air conditioner	Explanation
1	The OPERATION indication LED(BLUE) blinks when a power plug of the indoor unit is plugged in for the first time.	It indicates power is on. The LED stops blinking if the operation ON/OFF button on the remote control unit is pushed.
2	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. **[In case of heat pump model]** In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
3	Fan speed setting is not allowed in DRY( ) mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is selected automatically in AUTO mode.
4	Compressor stops operation intermittently in DRY( ) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
5	Timer LED(ORANGE) of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.
7	**[In case of heat pump model]** Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 9 minutes(maximum) until the deice is completed.
8	**[In case of heat pump model]** The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
9	**[In case of heat pump model]** Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation

Communication error

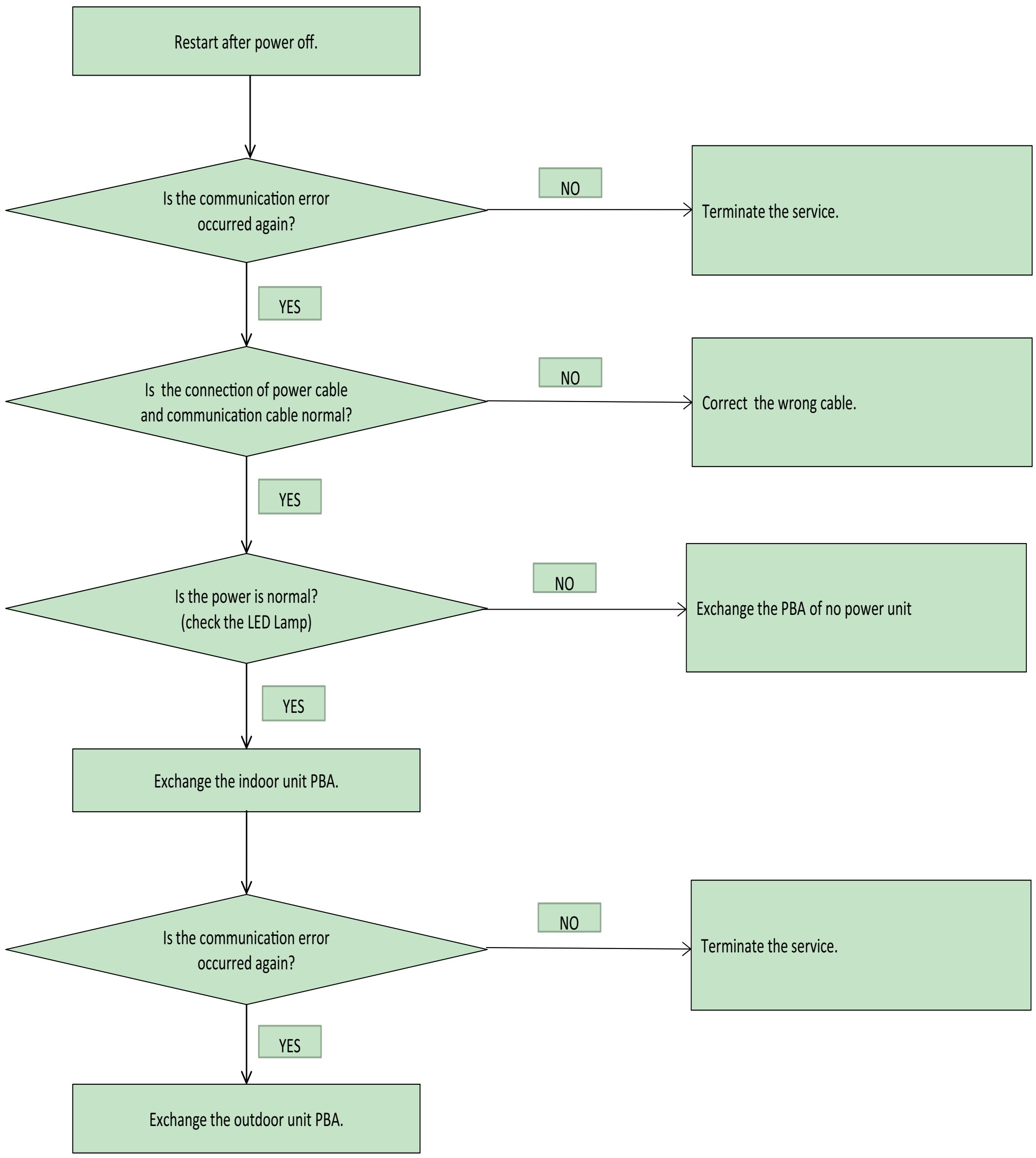
Indoor display	○	⊙	⊙	Communication error

Outdoor display	⊙	●	●	1min. Time out Comm.
	○	○	●	Abnormal Communication
	○	●	●	

1.Checklist :

1) Is the cable between the indoor unit and outdoor unit connected correctly?

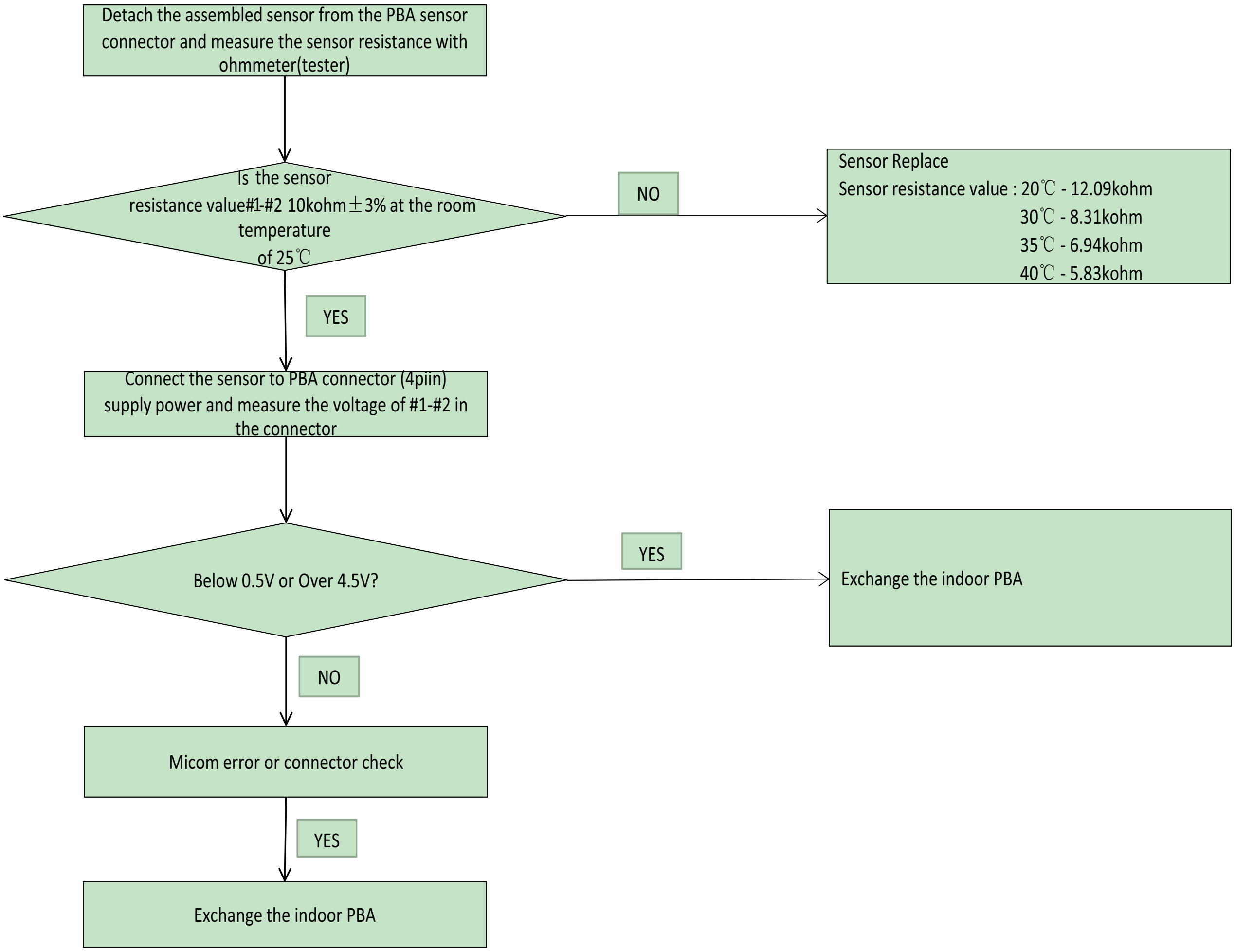
2) Isn't the power cable and communication cable cross?



Indoor temperature sensor error

Indoor display	○	⊙	○	Indoor room temp sensor error

1. Checklist :
1) Is the indoor units temperature sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?



1. Remove the temprature sensor and check the resistace sensor resistance value as follow:

20℃-12.09kohm
30℃-8.31kohm
35℃-6.94kohm
40℃-5.83kohm



2. set power on, and check the voltage of the CN43(PIN1, PIN2) the voltage is between 0.5V and 4.5V.

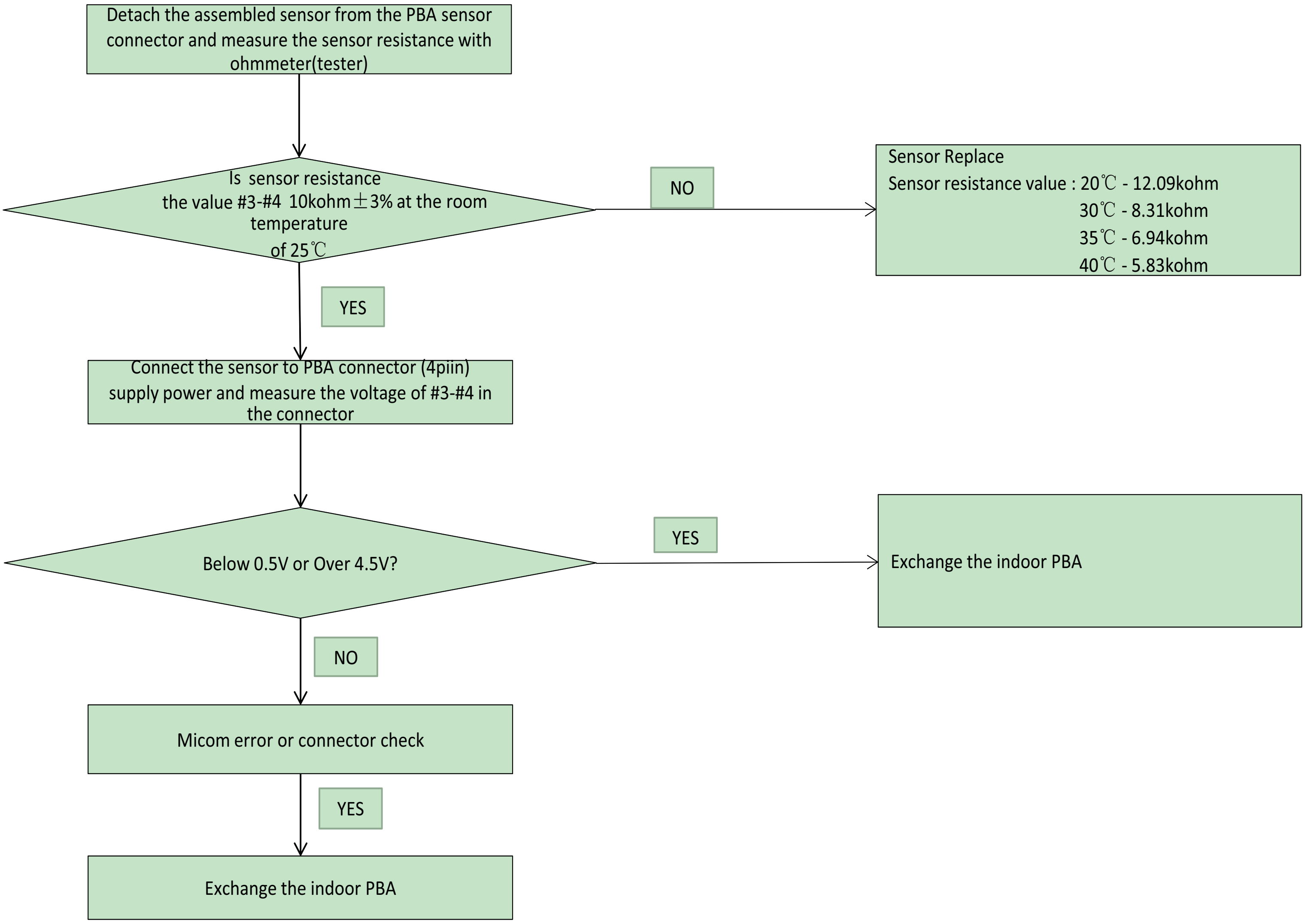


Indoor Eva-in temperature sensor error

Indoor display	⊙	⊙	○	Indoor Eva-in temp sensor error

1. Checklist :

1) Is the indoor units temperature sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?

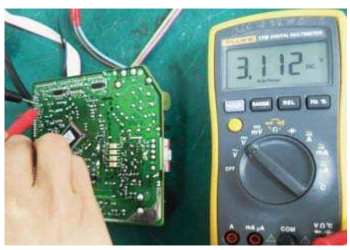


1. Remove the temprature sensor and check the resistace sensor resistance value as follow:

20℃-12.09kohm
30℃-8.31kohm
35℃-6.94kohm
40℃-5.83kohm



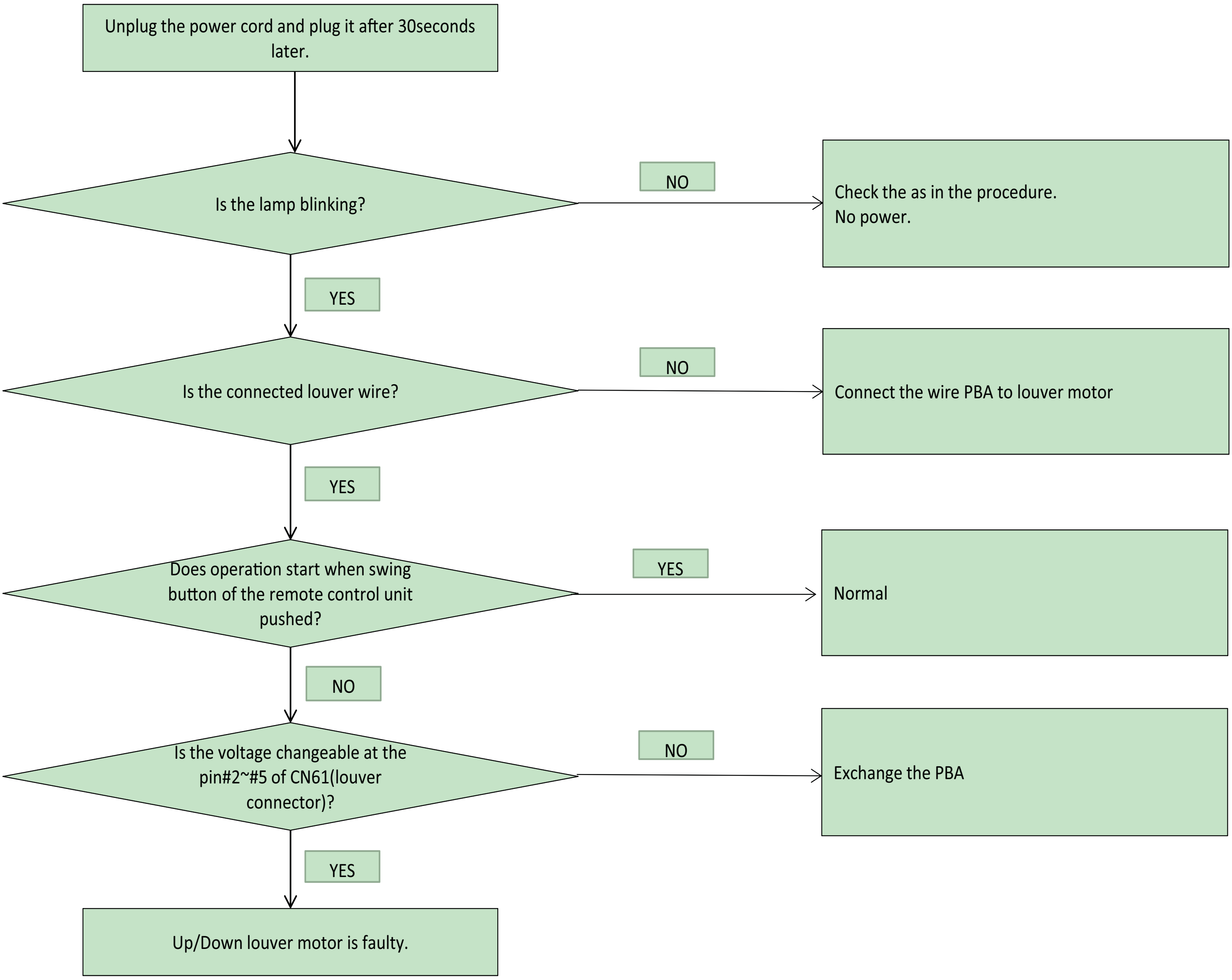
2. Set power on, and check the voltage of the CN43(PIN3, PIN4) the voltage is between 0.5V and 4.5V.



When the Up/Down louver motor does not operate (Initial Diagnosis) (Not displayed)

1. Checklist :
 1) Is the input power voltage normal?
 2) Is the Up/Down louver motor properly connected with the connector? (CN61)

2. Troubleshooting procedure



When the remote control is not receiving

1.Checklist :

1) Check if the connector was normally assembled.
2) Check the battery in remote control
3) All the lights out and check again : Change electronic typed to a fluorescent
4) Put the set in operation and check the voltage of display PBA
5) Replace the display PBA

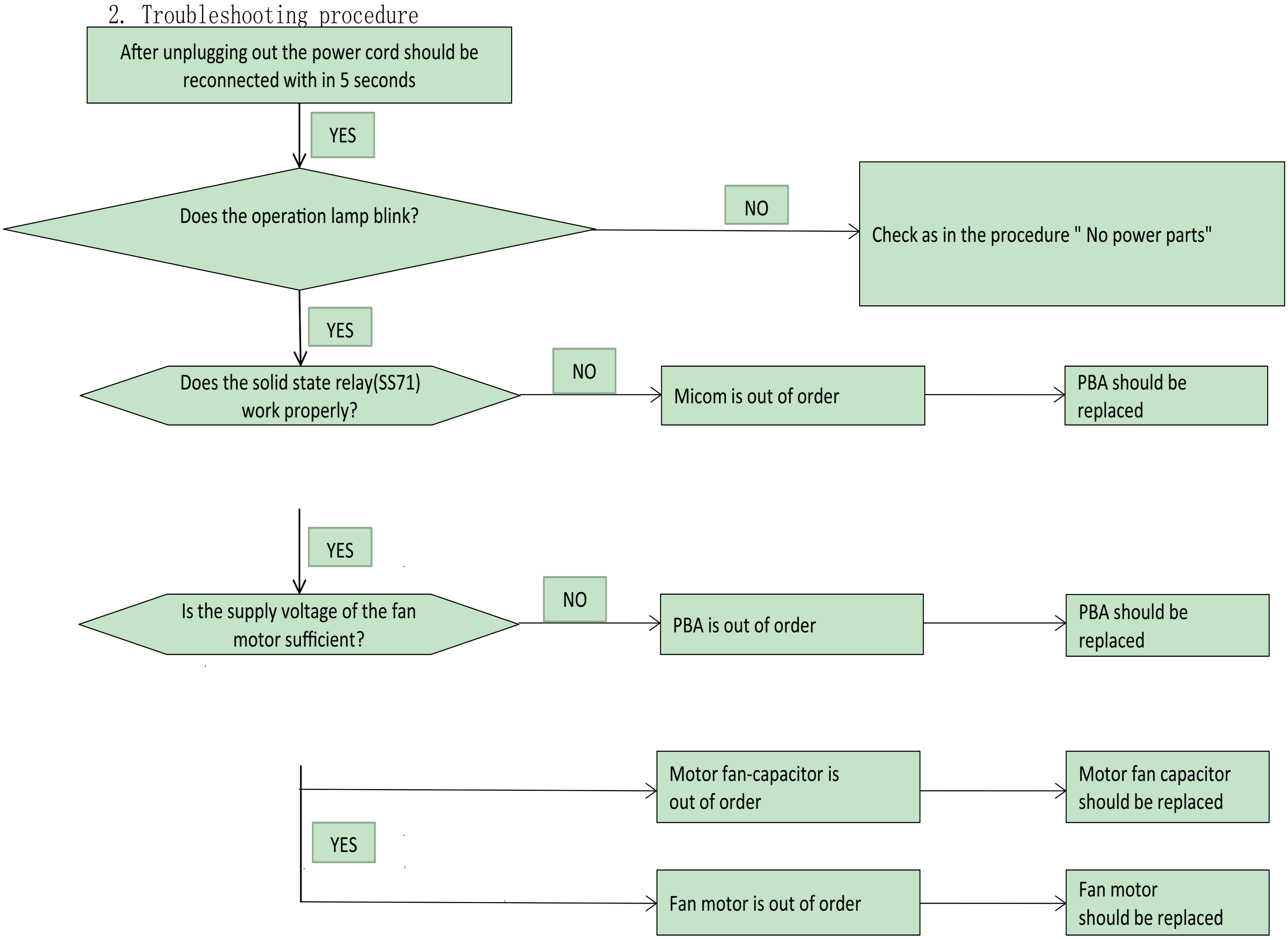
Indoor fan motor speed detecting error (AC fan)

Indoor display

○	○	⊙	Indoor fan error

1.Checklist :
1) Is the indoor units fan motor properly connected with the connector(CN72)?
2) Is the AC voltage correct?
3) Is the HALL IC(feedback sensing) in indoor fan motor properly connected with the connector(CN44)?
4) Is the running capacitor(CR71) properly connected with PBA?

2. Troubleshooting procedure



1.Set power on,check the voltage of SS71 and GND(SS71(+),GND)the voltage is about 12VDC.



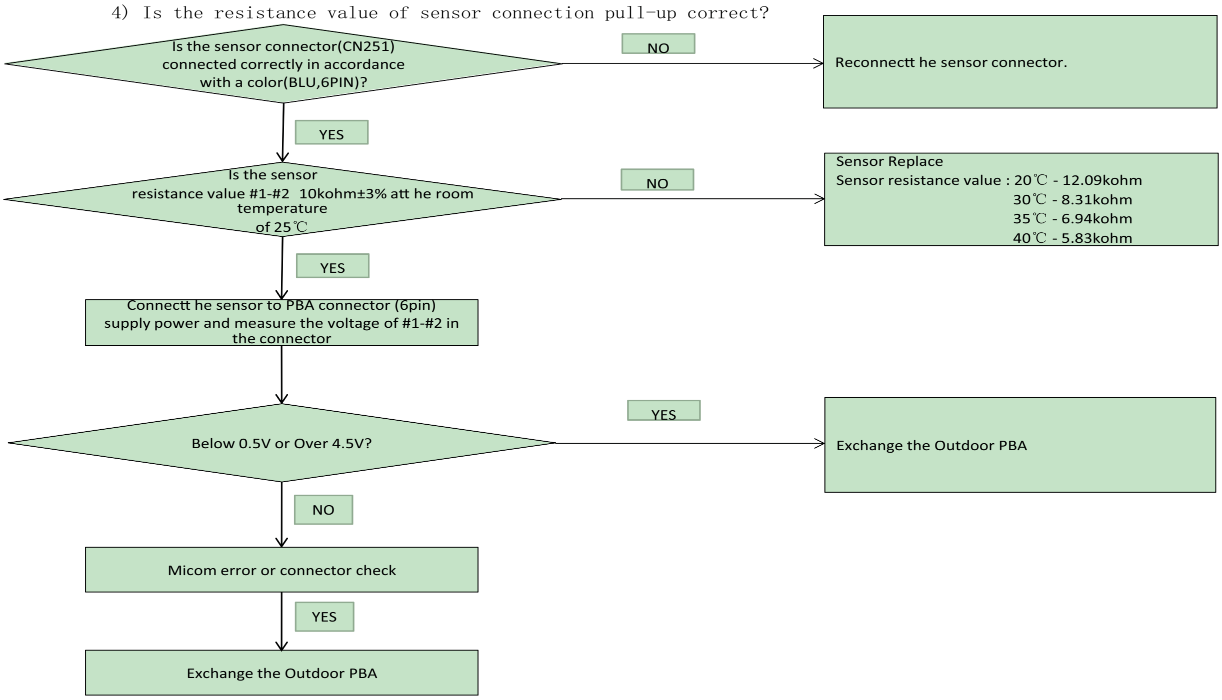
2.Set power on,and check the voltage of the CN72(PIN1,PIN5) the voltage is about 180VAC

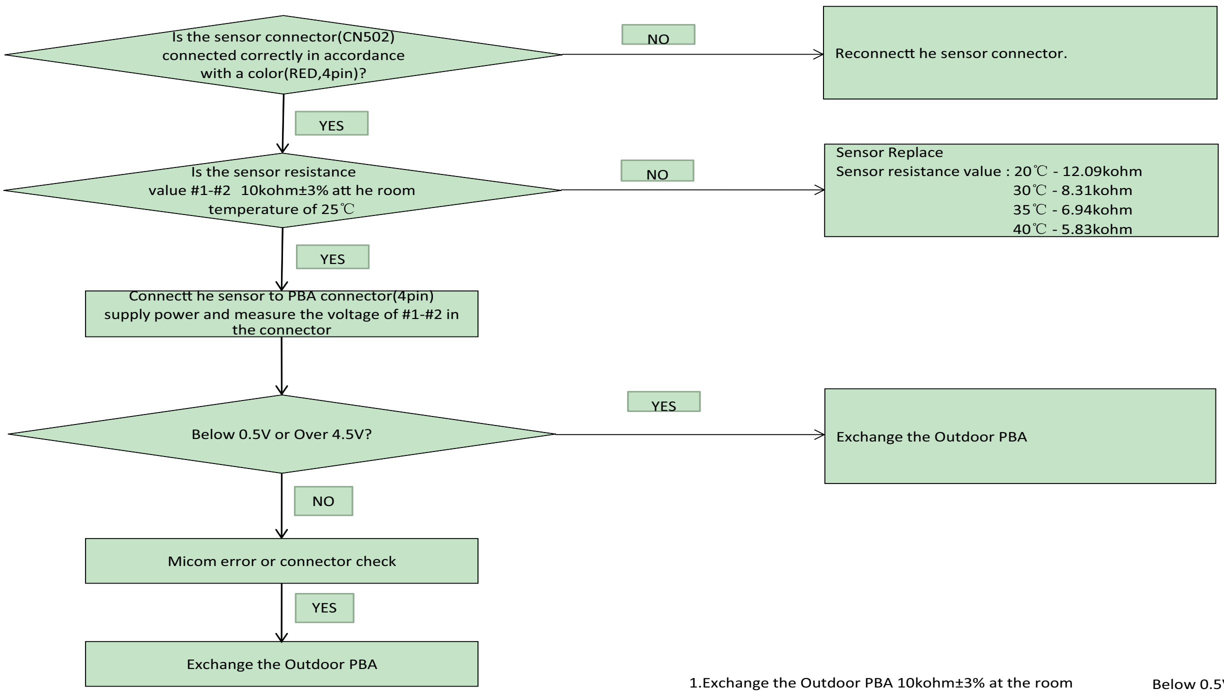


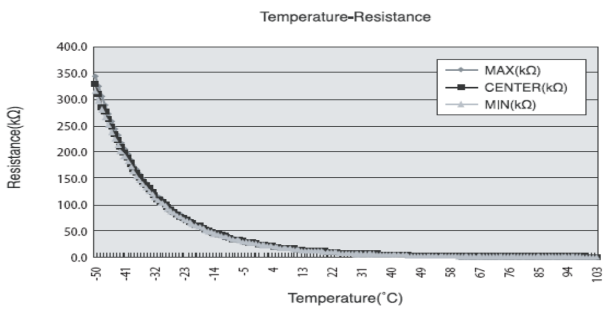
Outdoor temperature sensor error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	○	⊙	Outdoor temperature sensor error

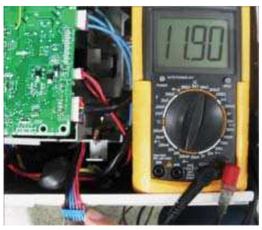
1. Checklist :
 1) Is the sensor connected correctly?
 2) Is the sensor placed correctly?
 3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
 4) Is the resistance value of sensor connection pull-up correct?







1.Exchange the Outdoor PBA 10kohm±3% at the room temperature of 25℃



Below 0.5V or Over 4.5V?



Outdoor Coil temperature sensor error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	●	⊙	Outdoor Coil temperature sensor error

1.Checklist :

1) Is the sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
4) Is the resistance value of sensor connection pull-up correct?

2-1. Troubleshooting procedure

- Is the sensor connector(CN251) connected correctly in accordance with a color(BLU,6PIN)?
  - NO → Reconnectt he sensor connector.
  - YES ↓
- Is the sensor resistance value #5-#6 10kohm±3% att he room temperature of 25℃
  - NO → Sensor Replace
    Sensor resistance value : 20℃ - 12.09kohm
    30℃ - 8.31kohm
    35℃ - 6.94kohm
    40℃ - 5.83kohm
  - YES ↓
- Connectt he sensor to PBA connector (6piin) supply power and measure the voltage of #5-#6 in the connector
- Below 0.5V or Over 4.5V?
  - YES → Exchange the Outdoor PBA
  - NO ↓
- Micom error or connector check
  - YES ↓
- Exchange the Outdoor PBA

2-2. Troubleshooting procedure

- Is the sensor connector(CN501) connected correctly in accordance with a color(WHT,4pin)?
  - NO → Reconnectt he sensor connector.
  - YES ↓
- Is the sensor resistance value #3-#4 (CN501) 10kohm±3% att he room temperature of 25℃
  - NO → Sensor Replace
    Sensor resistance value : 20℃ - 12.09kohm
    30℃ - 8.31kohm
    35℃ - 6.94kohm
    40℃ - 5.83kohm
  - YES ↓
- Connectt he sensor to PBA connector(4pin) supply power and measure the voltage of #3-#4 in the connector
- Below 0.5V or Over 4.5V?
  - YES → Exchange the Outdoor PBA
  - NO ↓
- Micom error or connector check
  - YES ↓
- Exchange the Outdoor PBA

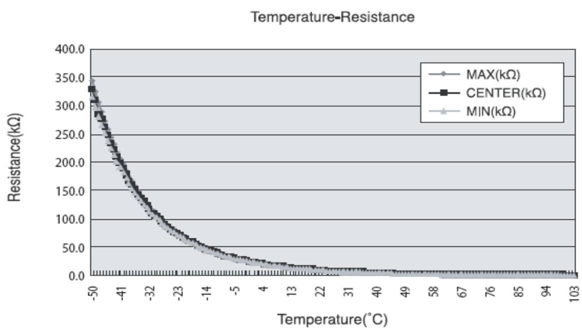
1.Is the sensor resistance value #5-#6

10kohm±3% at the room temperature of 25℃



Below 0.5V or Over 4.5V?





Outdoor Discharge temperature sensor error

Indoor display	⦿	○	⦿	Outdoor error
Outdoor display	⦿	⦿	○	Outdoor Discharge temperature sensor error

1.Checklist :
1) Is the sensor connected correctly?
2) Is the sensor placed correctly?
3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
4) Is the resistance value of sensor connection pull-up correct?

Is the sensor connector(CN251) connected correctly in accordance with a color(BLU,6PIN)?

NO → Reconnectt he sensor connector.

YES ↓

Is the sensor resistance value #3-#4 200kohm±3% att he room temperature of 25℃

NO → Sensor Replace
Sensor resistance value : 20℃ - 242kohm
30℃ - 166ohm
35℃ - 138ohm
40℃ - 115kohm

YES ↓

Connectt he sensor to PBA connector (6piin) supply power and measure the voltage of #3-#4 in the connector

Below 0.5V or Over 4.5V?

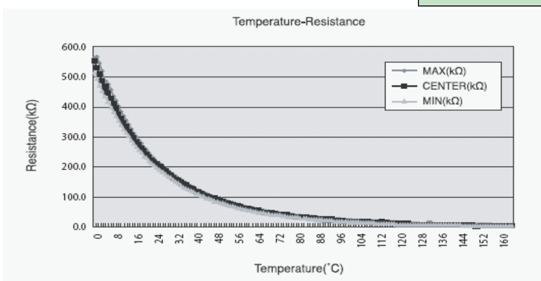
YES → Exchange the Outdoor PBA

NO ↓

Micom error or connector check

YES ↓

Exchange the Outdoor PBA



Is the sensor connector(CN502) connected correctly in accordance with a color(red,4pin)?

NO → Reconnectt he sensor connector.

YES ↓

Is the sensor resistance value #3-#4 200kohm±3% att he room temperature of 25℃

NO → Sensor Replace
Sensor resistance value : 20℃ - 242kohm
30℃ - 166ohm
35℃ - 138ohm
40℃ - 115kohm

YES ↓

Connectt he sensor to PBA connector(4pin) supply power and measure the voltage of #3-#4 in the connector

Below 0.5V or Over 4.5V?

YES → Exchange the Outdoor PBA

NO ↓

Micom error or connector check

YES ↓

Exchange the Outdoor PBA

1.Is the sensor resistance value #5-#6 10kohm±3% at the room temperature of 25℃



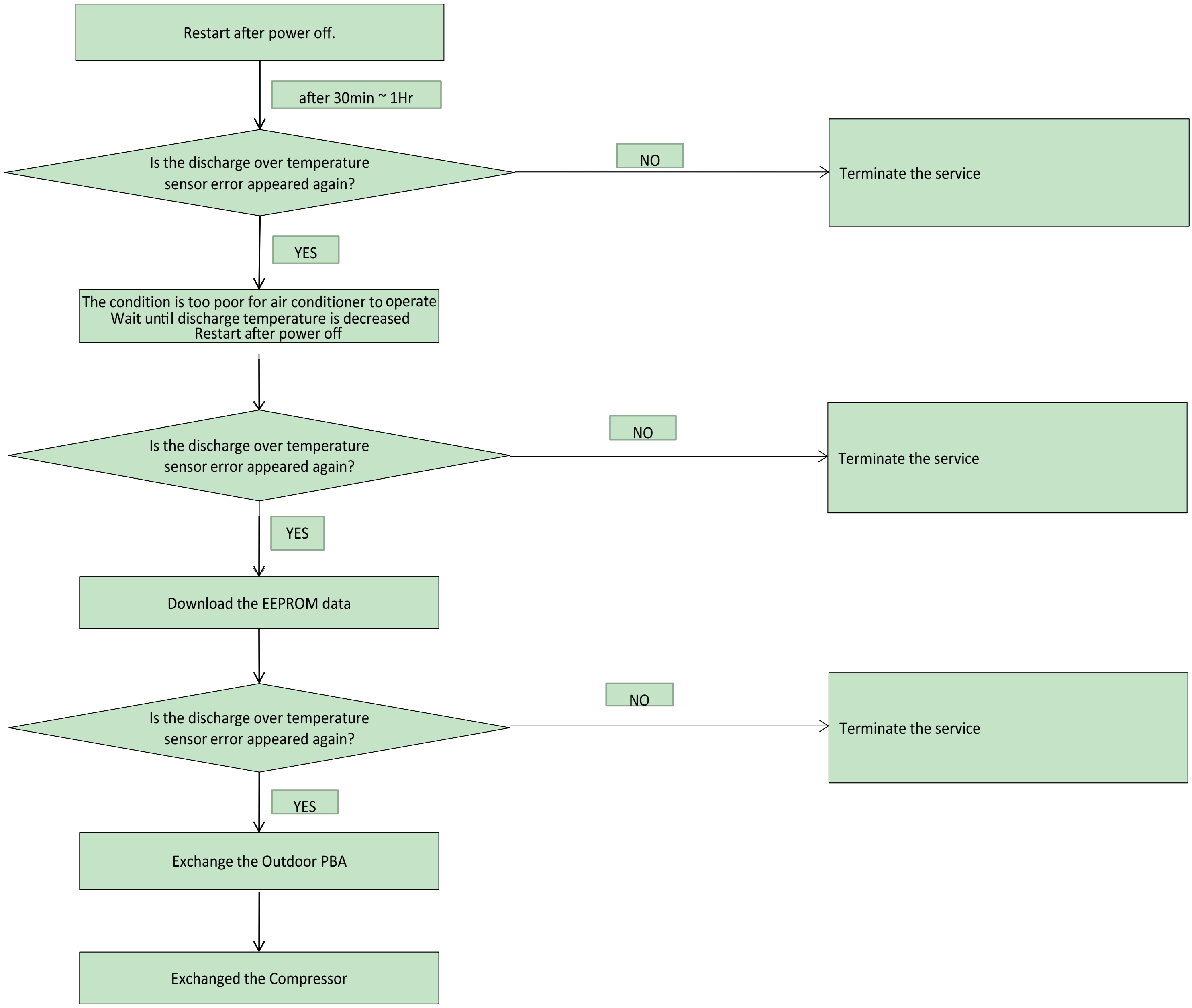
Below 0.5V or Over 4.5V?



Outdoor Discharge over temperature error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	○	●	Outdoor Discharge over temperature error

1. Checklist :
   1) Check the discharge temperature in the outdoor unit
   2) Check the compressor locking or gas leak
   3) Download the EEPROM data
2. Troubleshooting procedure

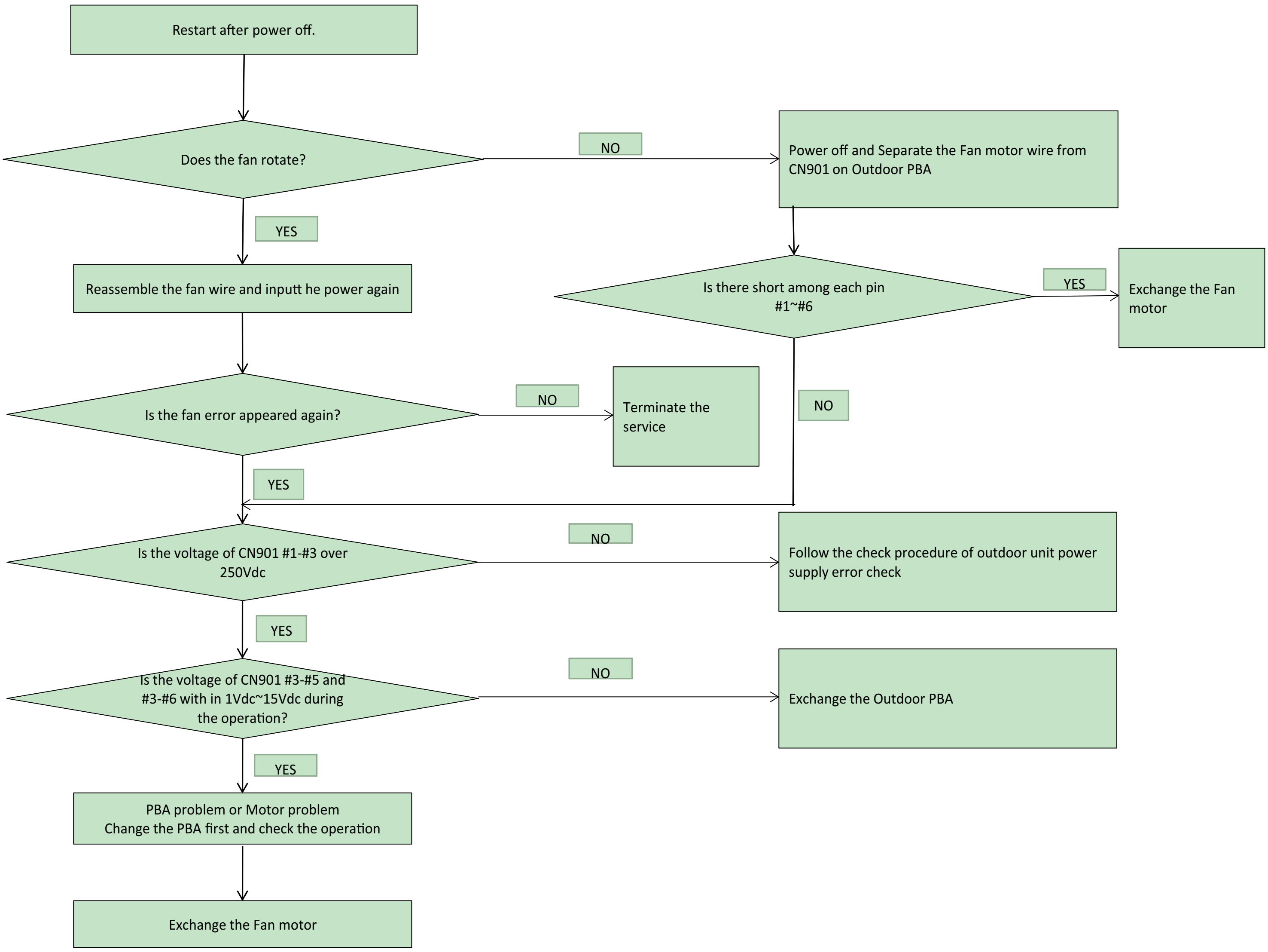


Outdoor Fan motor error

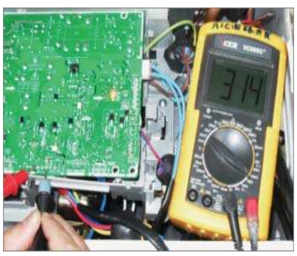
Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	○	○	Outdoor fan error

1.Checklist :

1) Are the input power voltage and the power connection correct?
2) Is the motor wire connected to the outdoor PBA correctly?
3) Is there no assembly error or none-assembly in the terminal of motor wire connector?
4) Is there no obstacle at the surrounding of motor and propeller?



1.Is the voltage of CN901 #1-#3 over 250Vdc?



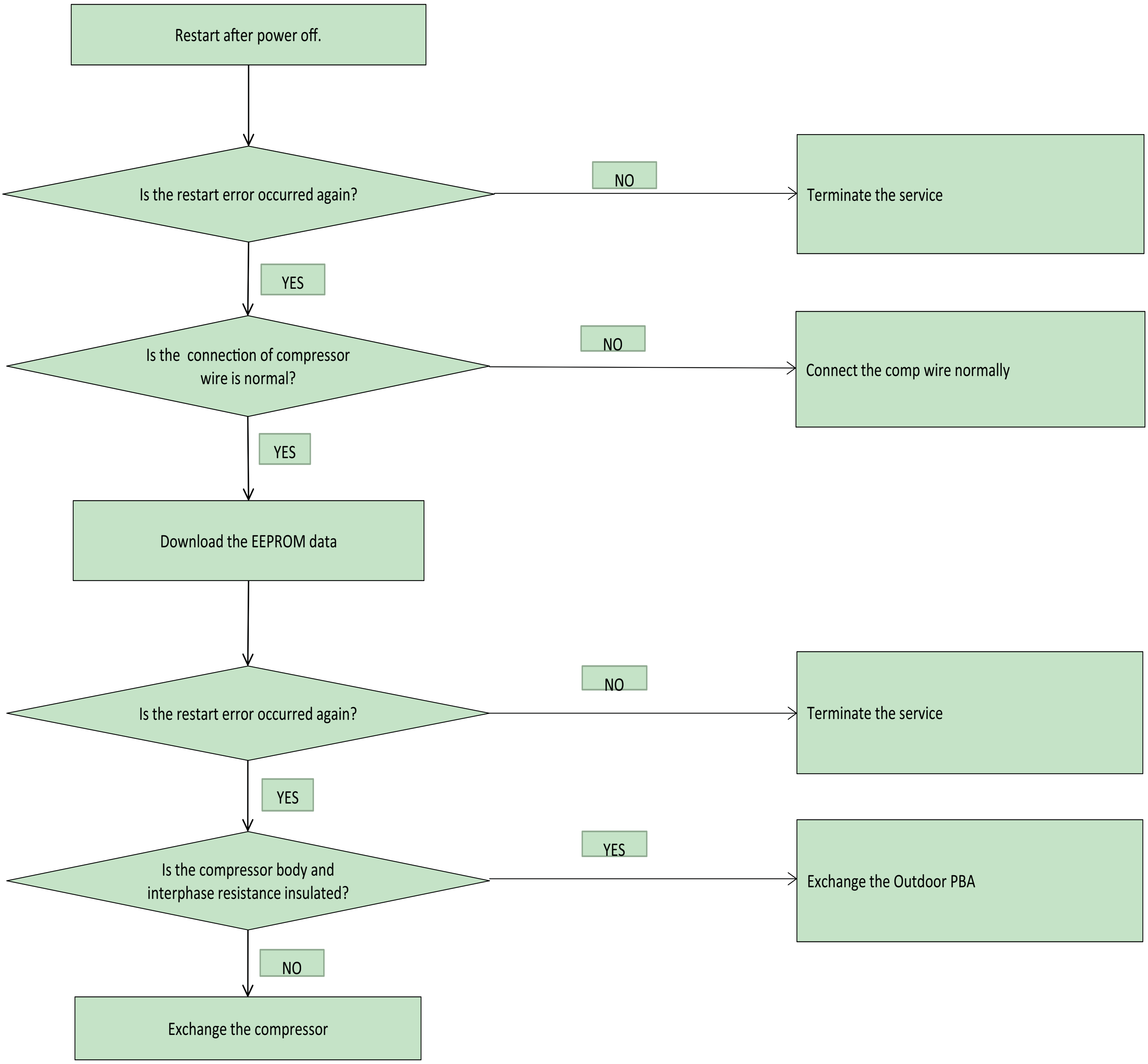
Is the voltage of CN901 #3-#5 and #3-#6 with in 1Vdc~15Vdc during the operation?



Compressor starting error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	○	⊙	○	Comp starting error

1. Checklist :
1) Is the connection of cable for the compressor?
2) Is the compressor wire is connected clockwise? U(RED)-V(BLU)-W(YEL)
3) Is the interphase resistance of compressor normal?

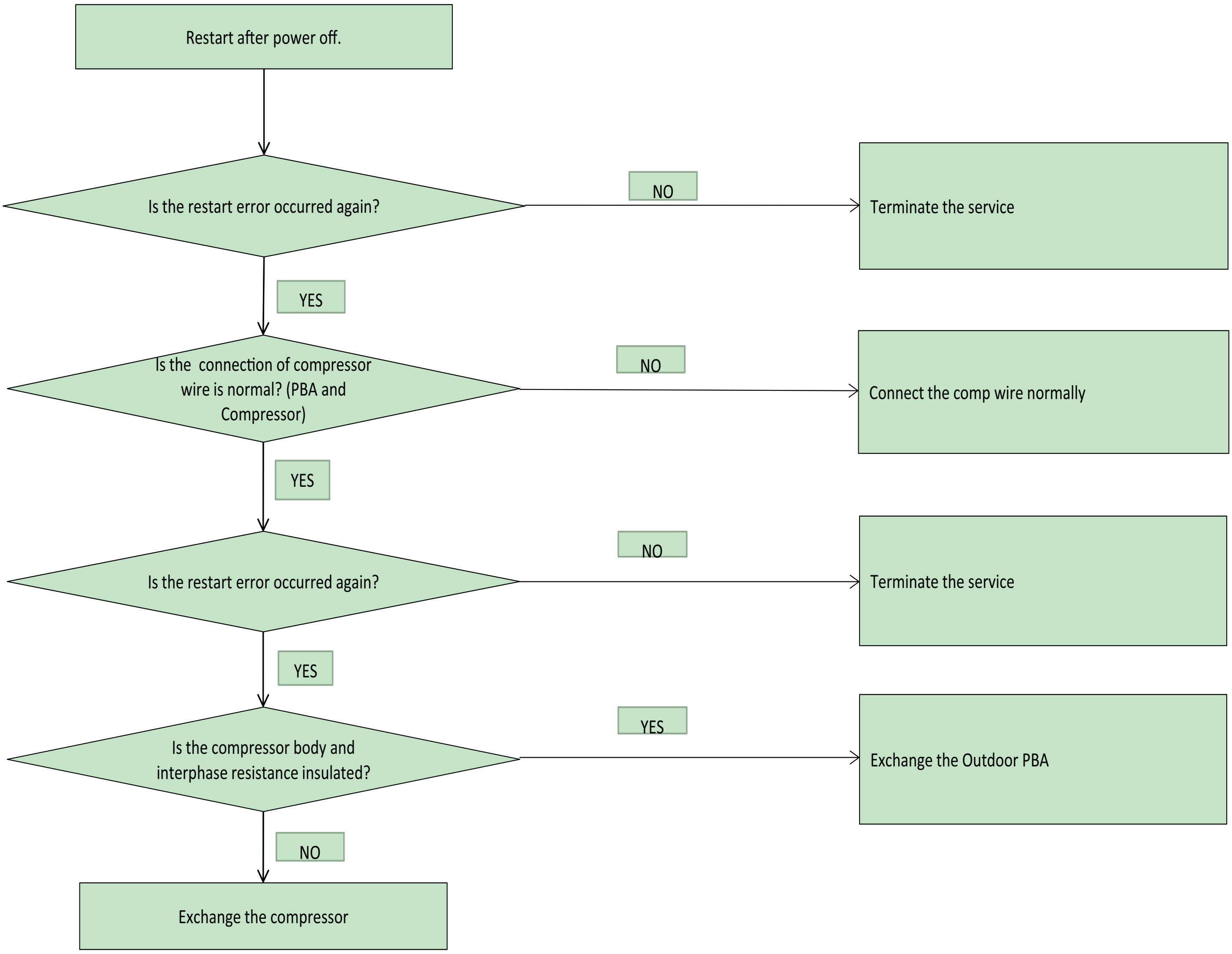


Compressor wire missing error/rotation error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	○	●	Compressor wire missing error/rotation error

1.Checklist :

1) Is the connection of cable for the compressor?
2) Is the compressor wire is connected clockwise? U(RED)-V(BLU)-W(YEL)
3) Is the interphase resistance of compressor normal?

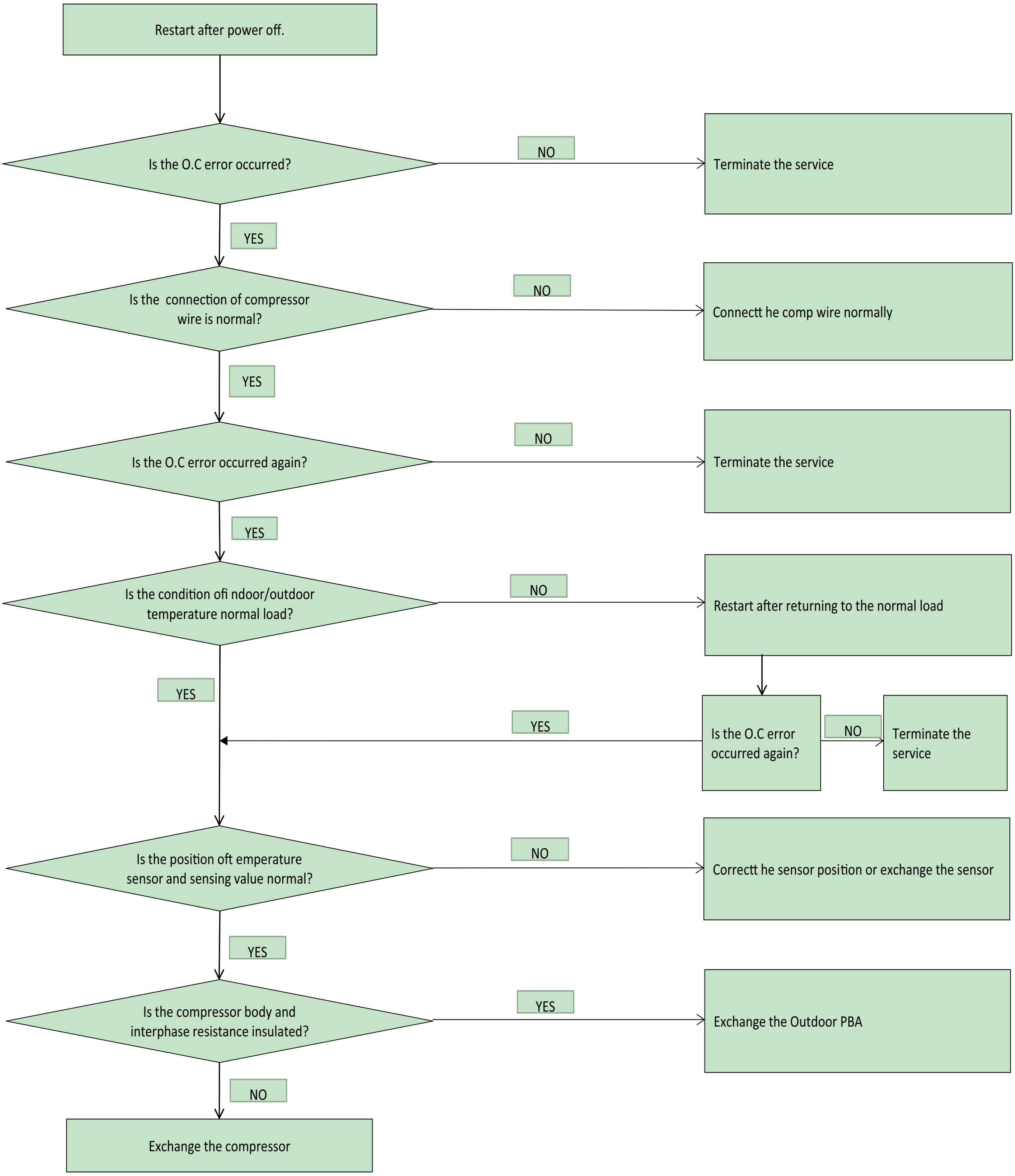


O.C(Over Current) error

Indoor display	⦿	○	⦿	Outdoor error
Outdoor display	○	○	⦿	Comp starting error

1.Checklist :

1) Is the IPM Shunt resistance value correct? Check the resistor is opened
2) Is the condition of surrounding temperature abnormal overload?
3) Is there any problem as like the temperature sensor separation or measurement value error?
4) Is the interphase resistance of compressor normal?



DC_link voltage sensor error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	⊙	⊙	DC_link voltage sensor error

1. Checklist :
   1) Is the input voltage of outdoor terminal block is normal?
   2) Is the reactor wire connected?
   3) Is the DC_link capacitor assembled in accordance the specification? (Outdoor PBA)
   4) Is the DC_link resistor value is normal? (Outdoor PBA)

2. Troubleshooting procedure

- Is the connected of reactor wire? (PBA-Reactor)
  - NO → Connectt he reactor wire
  - YES → Restart after power off. Startt he operation (cooling mode or heating mode)
- Is the DC_link voltage (CE101 or CE001) is normal in operation mode? Normal range(280Vdc~320Vdc)
  - NO → Check the power input
  - YES ↓
- Is the DC_link voltage (R104 or R004) is normal in operation mode? Normal range (0.2Vdc~2.8Vdc)
  - NO → Exchange the Outdoor PBA
  - YES ↓
- Is the reactor insulation damaged?
  - NO → Exchange the Outdoor PBA
  - YES → Exchange the Reactor

1.Is the DC_link voltage (CE101 or CE001) is normal in operation mode?
Normal range(280Vdc~320Vdc)



2.Is the DC_link sensing voltage(R104 or R004) is normal in operation mode?
Normal range(280Vdc~320Vdc)



DC_link voltage under/over error, Over voltage protection error/PFC over load

Indoor display	⦿	○	⦿	Outdoor error
Outdoor display	○	●	⦿	DC_link voltage under/over error Over voltage protection error PFC over load

1. Checklist :
 1) Is the input voltage of outdoor terminal block is normal?
 2) Is the input voltage is higher than 300Vac?
 3) Is the reactor wire connected?
 3) Is the DC_link capacitor assembled in accordance the specification? (Outdoor PBA)
 4) Is the DC_link resistor valueo ? (Outdoor PBA)

2. Troubleshooting procedure

Is the connected of reactor wire?
(PBA-Reactor)

NO → Connectt he reactor wire

YES ↓

Restart after power off.

YES ↓

Is the the input voltage is nomal?
Normal range(180Vac ~ 270Vac)

NO → Check the input power in the powercord.

YES ↓

Restart after power off.
Startt he operation (cooling mode or heating mode)

Is the DC_link voltage
(CE101 or CE001) is normal in operation mode?
Normal range(280Vdc~320Vdc)

NO → Check the input power

YES ↓

Is the DC_link
sensing voltage(R104or R004) is normal in operation mode?
Normal range (0.2Vdc~2.8Vdc)

NO → Exchange the Outdoor PBA

YES ↓

Is the reactor insulation damaged?

NO → Exchange the Outdoor PBA

YES ↓

Exchange the Reactor

1.Is the the input voltage is nomal?
Normal range(180Vac ~ 270Vac)



2.Is the DC_link voltage (CE101 or CE001) is normal in operation mode?
Normal range(280Vdc~320Vdc)



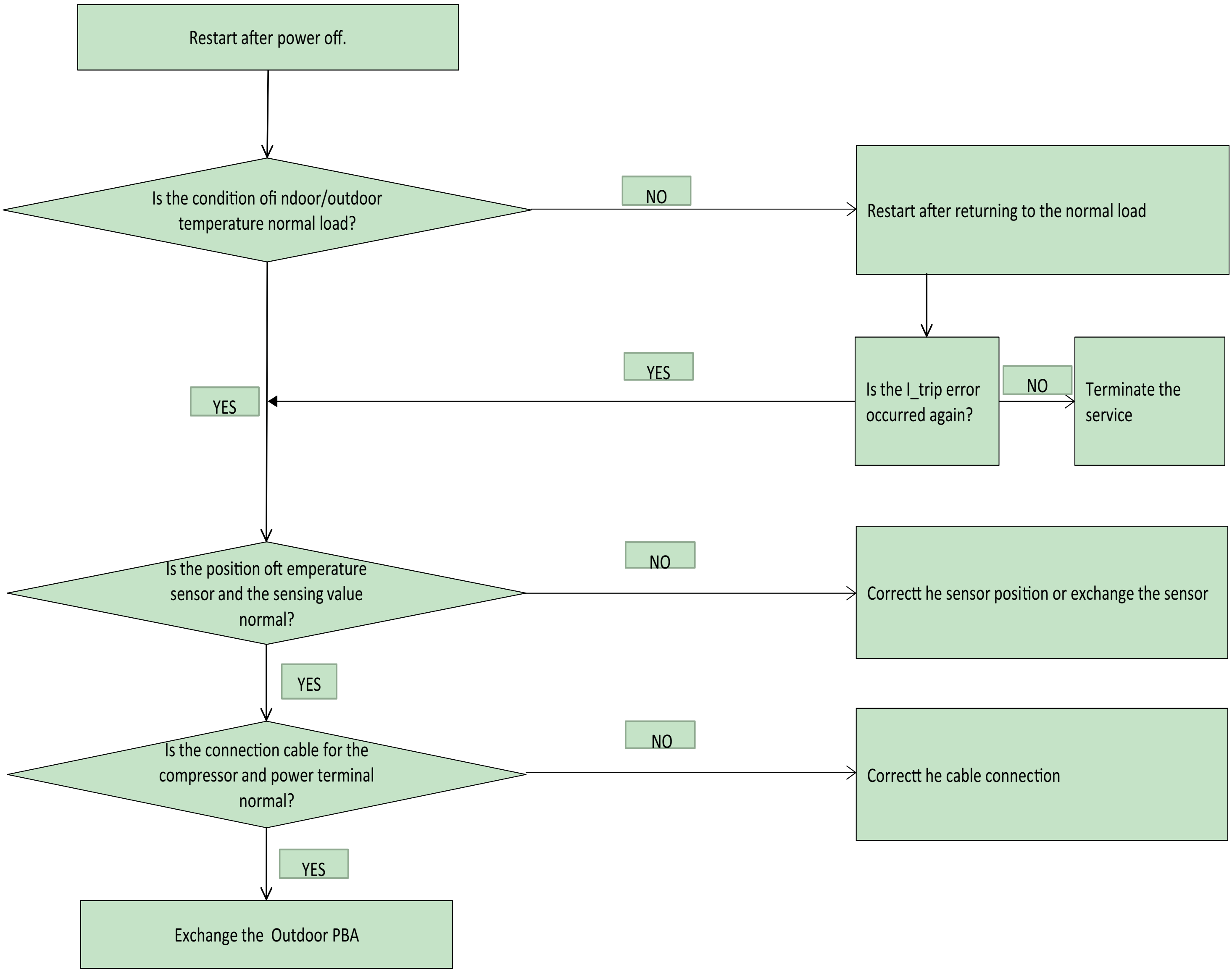
3.Is the DC_link sensing voltage(R104 or R004) is normal in operation mode?
Normal range(280Vdc~320Vdc)



I_trip error, PFC over current

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	⊙	●	I_trip error, PFC over current

1. Checklist :
 1) Is the PFC Shunt resistance value correct? Check the resistor is opened?
 2) Is the condition of surrounding temperature abnormal overload?
 3) Is there any problem as like the temperature sensor separation or measurement value error?
 4) Is the interphase resistance of compressor normal?

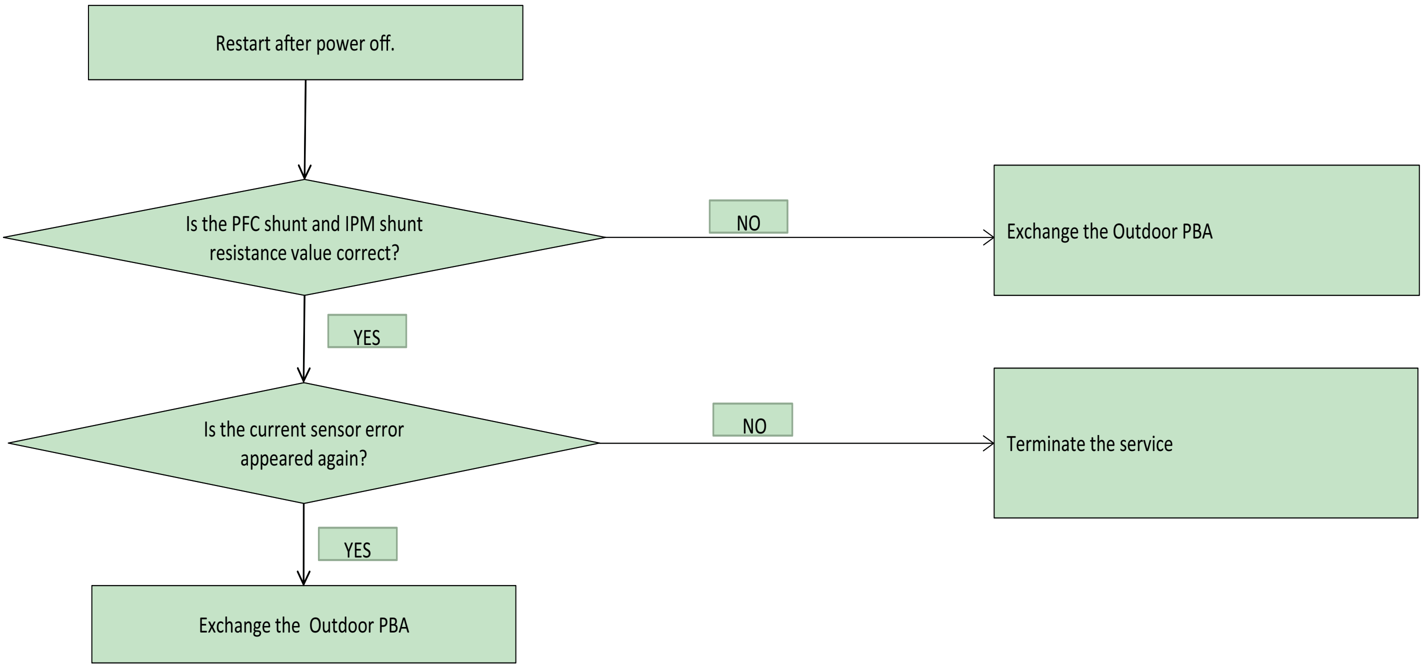


Current sensor error/Input current sensor error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	⊙	●	Current sensor error/Input current sensor error

1.Checklist :

1) Is the PFC Shunt resistance value correct? Check the resistor is opened
2) Is the IPM Shunt resistance value correct? Check the resistor is opened
3) Is there no short or open around IC451 ?

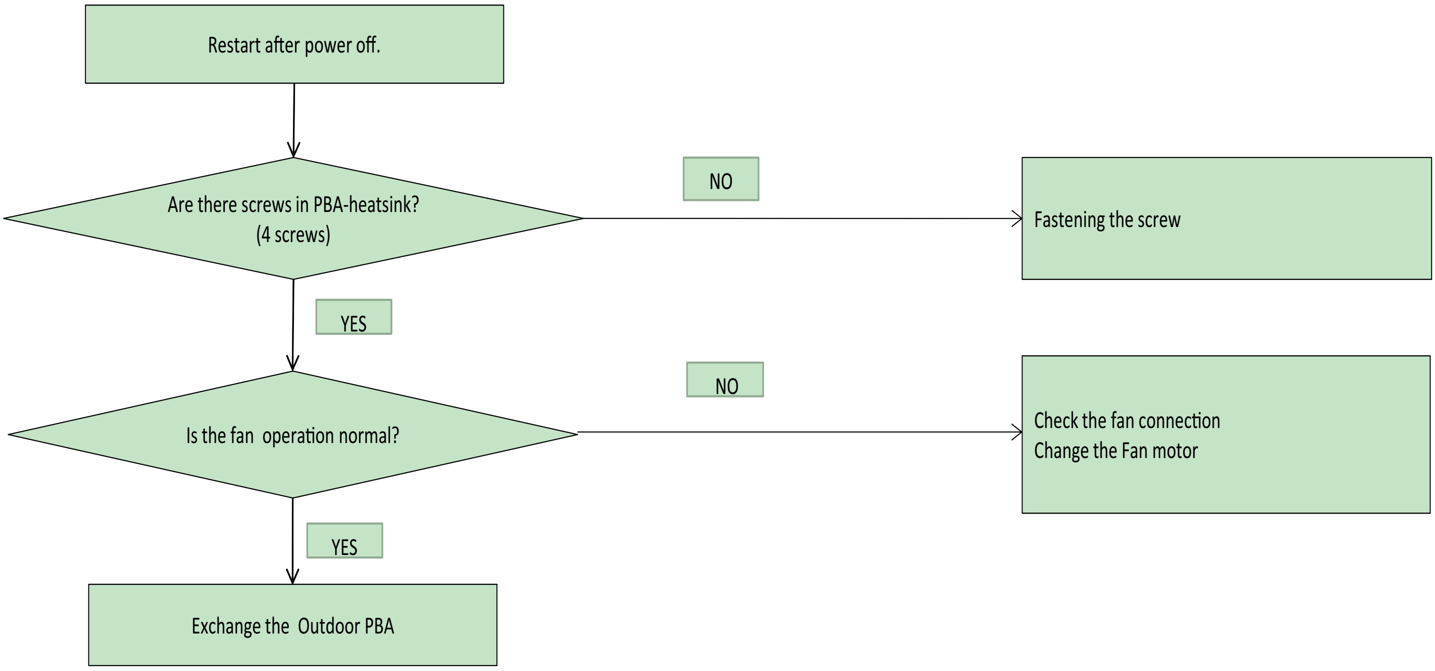


Heatsink sensor error/Heatsink over heat

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	⊙	●	Heatsink sensor error
	⊙	●	⊙	Heatsink over heat error

1. Checklist :

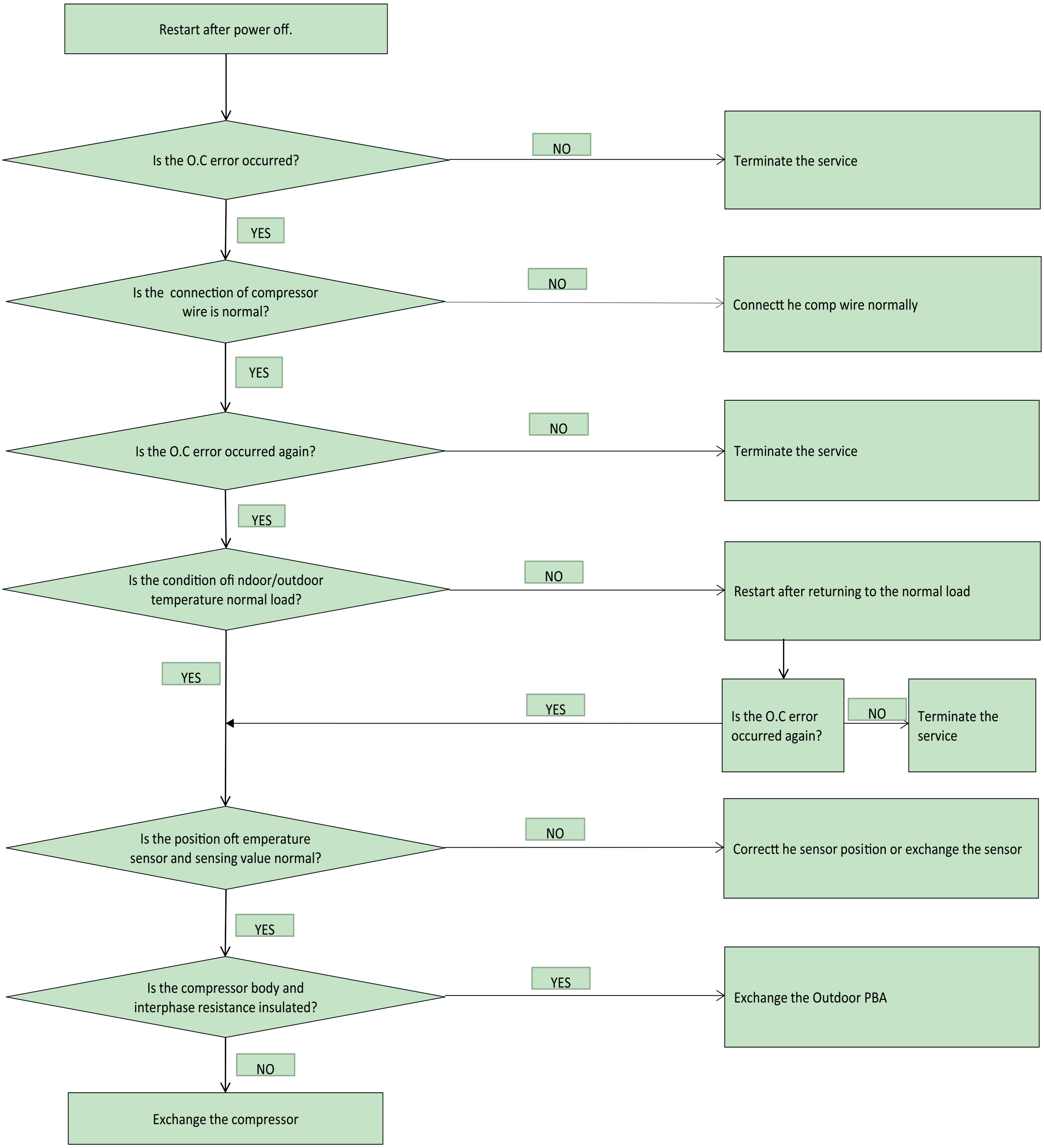
1) Are there screws assembly in PBA-heatsink?
2) Is the gap PBA-heatsink
3) Is the fan operation normal?
4) Is the cover assembly in conrol-box normal?



Comp Vlimit error/Comp current limit error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	●	○	Comp Vlimit error/Comp current limit error

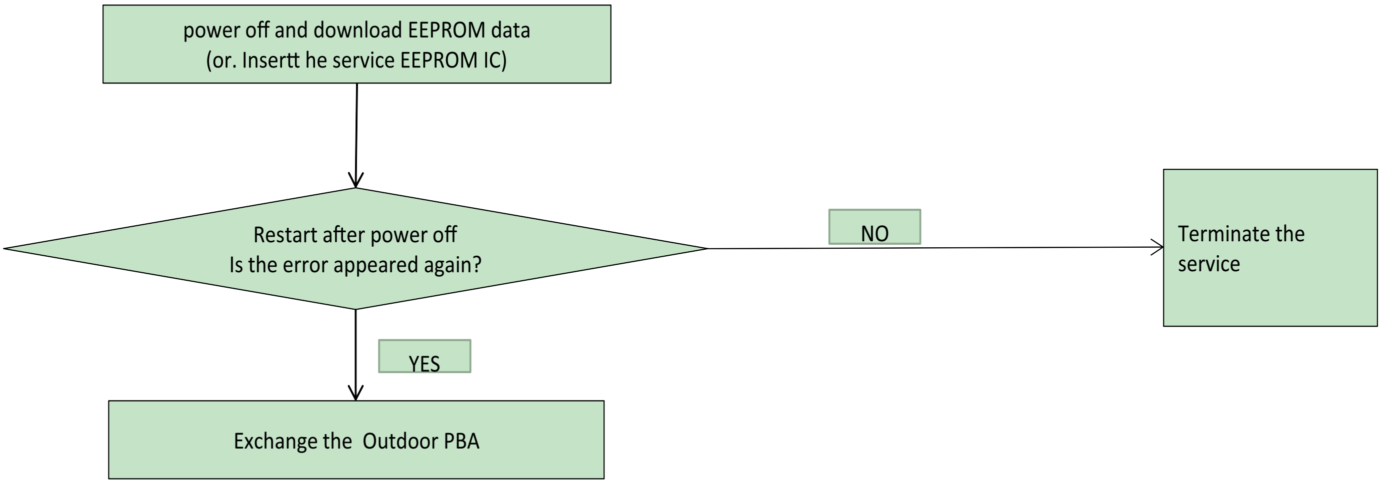
1. Checklist :
 1) Is the IPM Shunt resistance value correct? Check the resistor is opened
 2) Is the condition of surrounding temperature abnormal overload?
 3) Is there any problem as like the temperature sensor separation or measurement value error?
 4) Is the interphase resistance of compressor normal?



EEPROM error/OTP error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	○	●	○	EEPROM error
	●	○	⊙	OTP error

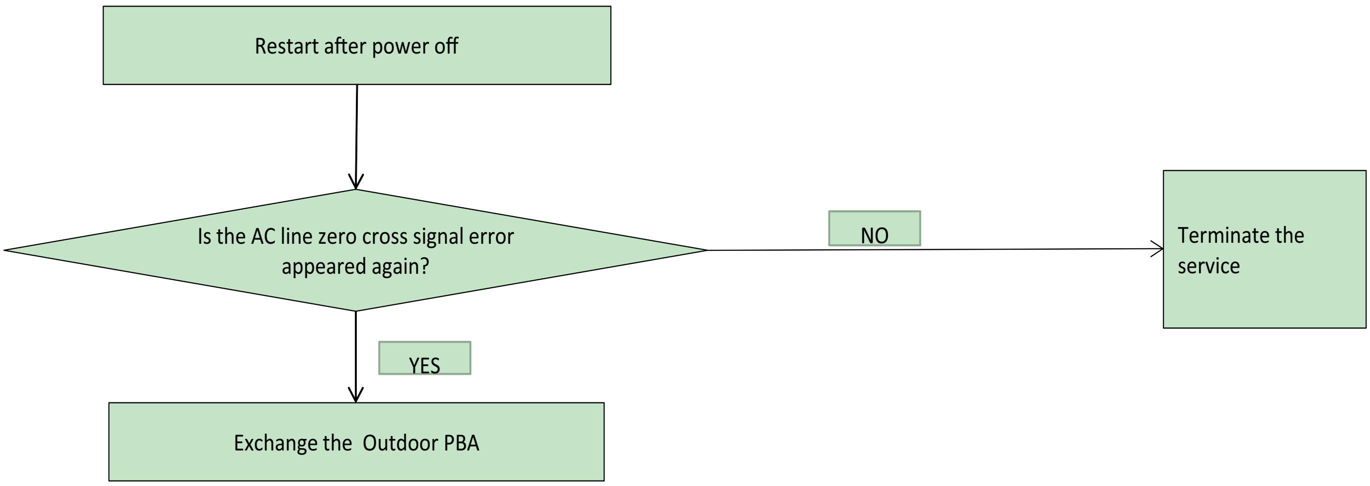
1. Checklist :
 1) Is there a short around micom?
 2) Is there a short around IC202 ?
 3) Did you download or insert EEPROM IC, after changing outdoor PBA?



AC zero cross signal error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	●	⊙	AC zero cross signal error

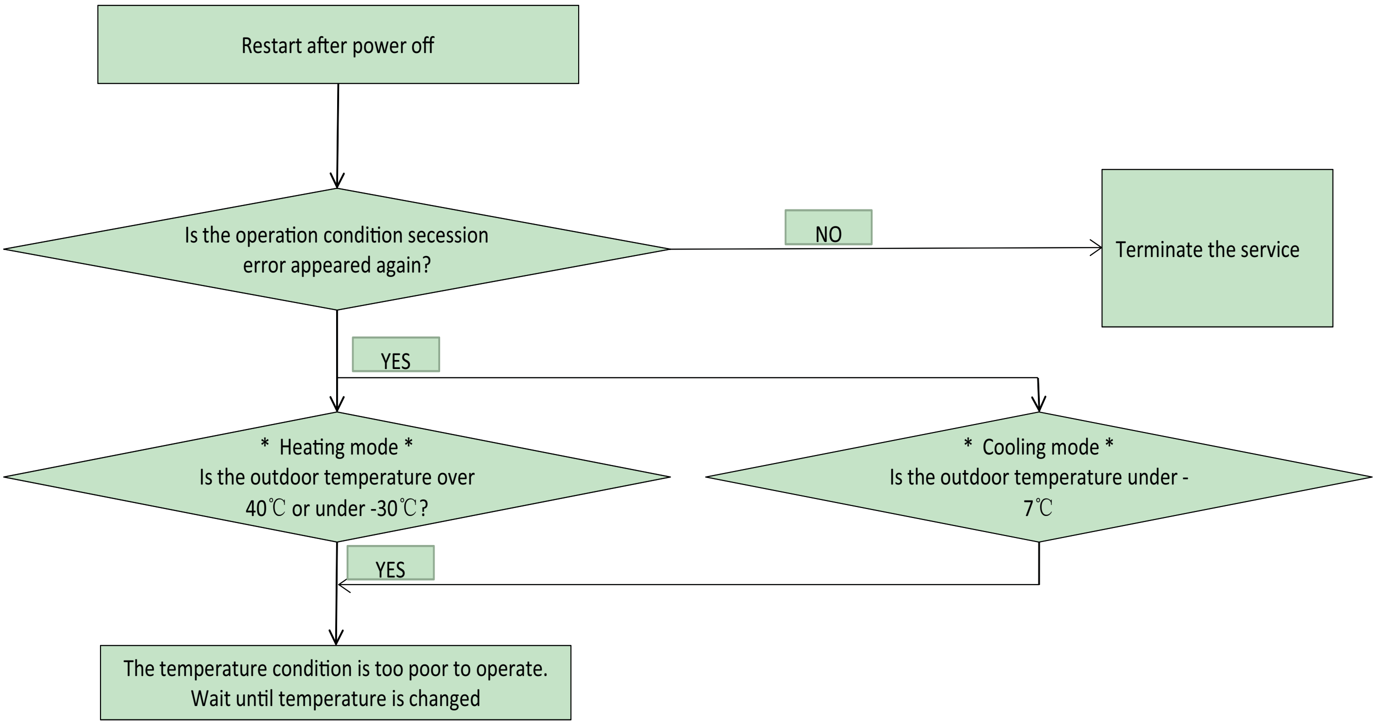
1. Checklist :
 1) Check the power condition at customer's house (Is there any power noise?)
 2) Have been there power failure?



Operation condition secession error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	●	⊙	○	AC zero cross signal error

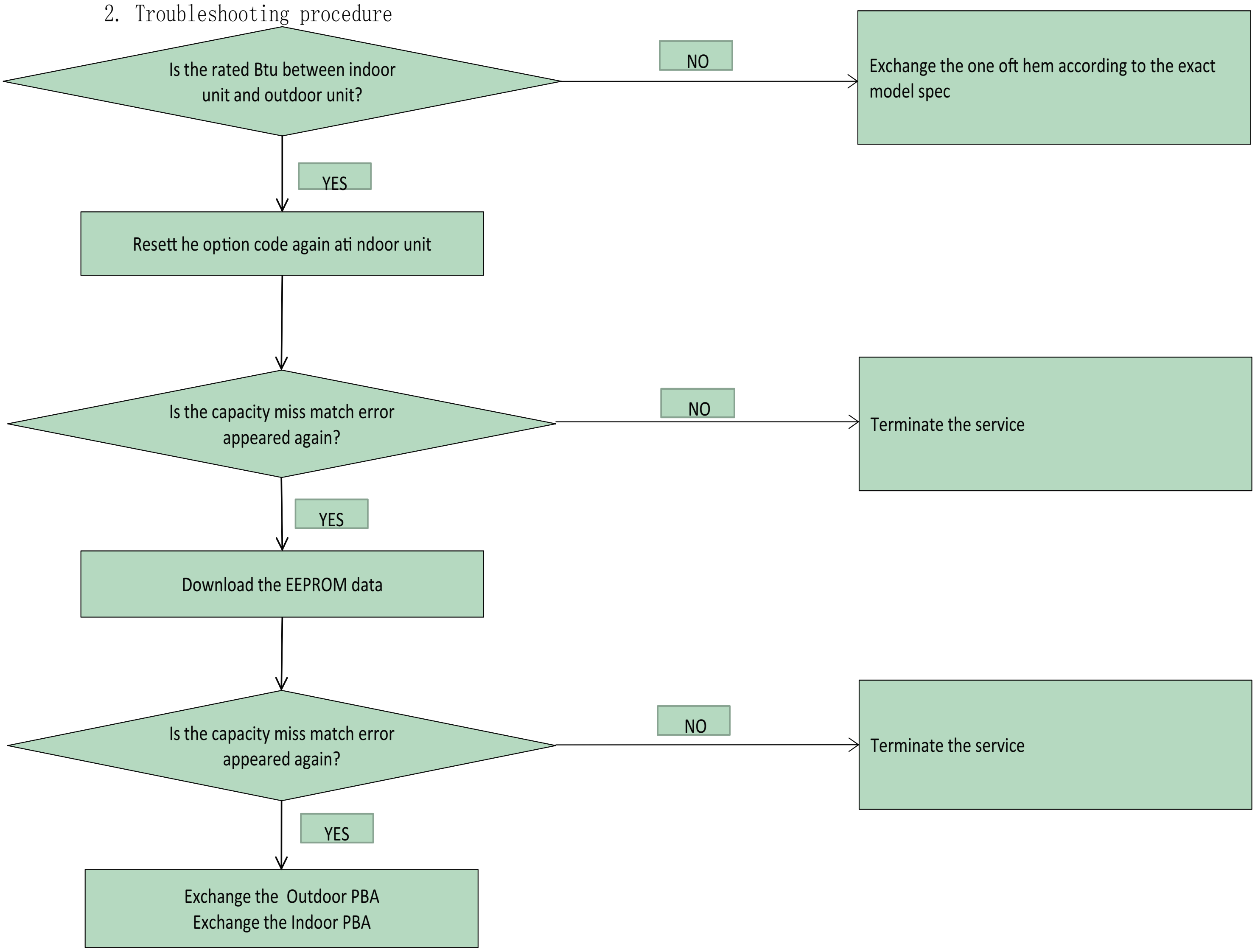
1. Checklist :
 1) Check the temperature around the outdoor unit.
2. Troubleshooting procedure



Capacity miss match error

Indoor display	⊙	○	⊙	Outdoor error
Outdoor display	⊙	○	○	Capacity miss match error

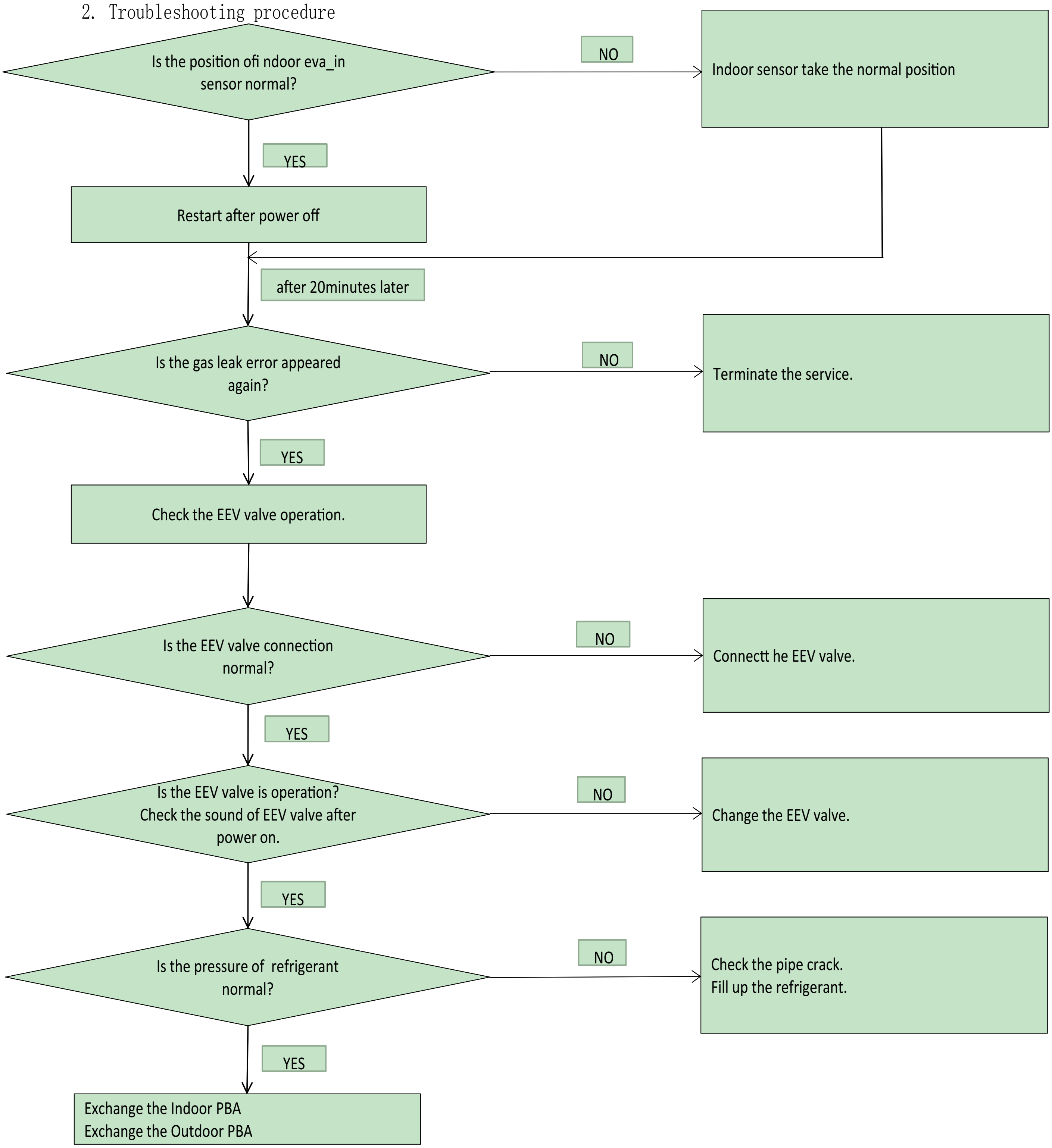
1. Checklist :
 1) Check the Btu between indoor and outdoor unit
 2) Check the indoor unit option and outdoor unit EEPROM data
2. Troubleshooting procedure



Gas leak error

Indoor display	⦿	○	⦿	Outdoor error
Outdoor display	●	●	○	Gas leak error

1. Checklist :
 1) Is the position of indoor Eva_in sensor normal?
 2) Check the pipe crack
 3) Check the EEV valve connection in Outdoor unit
 4) Check the refrigerant was charged
2. Troubleshooting procedure



No power indoor (Initial Diagnosis) (Not displayed)

1. Checklist :

1) Is input power normal? 2) Is AC power linked correctly? 3) Is input voltage of DC_link capacitor normal?

4) Is the voltage of DC regulator normal?

2. Troubleshooting procedure

- Unplug the power cord
- Is the power cable from outdoor is correct? (L, N - CN71)
  - NO → Reconnectt he power cord correctly.
  - YES ↓
- Check the fuse open or not? (F701,F702)
  - NO → Exchange the PBA
  - ↓
- Restart after power off.
- Is the power normal?
  - → Check the power source.
  - YES ↓
- Press the power button on the display board
  - NO → The remote control signal reciever on the display PBA is wrong. Check the display board
  - YES ↓
- Is the DC_link voltage normal? C102(+)-C101(-) :270Vdc~320Vdc
  - NO → Exchange the PBA
  - YES ↓
- Is the SMPS is normal? IC102 : 12Vdc-GND-5Vdc
  - NO → Exchange the PBA
  - YES ↓
- Exchange the PBA

1.Is the the input voltage is nomal?
Normal range(180Vac ~ 270Vac)



2.Is the DC_link voltage (CE101 or CE001) is normal in operation mode?
Normal range(280Vdc~320Vdc)



3.Is the DC_link sensing voltage(R104 or R004) is normal in operation mode?
Normal range(280Vdc~320Vdc)



12-3-1 Pre-inspection Notices

1. Check if you pulled out the AC power plug when you eliminate the PCB or front panel
2. Don't hold the PCB side not impose excessive force on it to eliminate the PCB
3. Don' t pull the lead wire but hold the whole housing to connect or disconnect a connector to the PCB
4. In case of outdoor PCB disassembly, check first the complete discharge of condenser after 1 minute power off

12-3-2 Inspection procedure

1. Check connector connection and peeling of PCB or bronze coating pattern when you think the PCB is broken
2. The PCB is composed of 3 parts
   - Indoor Main part : MICOM and surrounding circuit, relay, fan motor sensing and driving circuit, temperature sensing circuit power circuit of SMPS, buzzer circuit. Communication circuit
   - Display part : LED lamp, Switch, Remote-control module
   - Outdoor Main part : MICOM and surround circuit, fan motor sensing and driving circuit, compressor driving circuit power circuit of SMPS, PFC control circuit, 4way circuit, communication circuit, OPTION (EEV control circuit, temperature sensing circuit)

12-3-3 Indoor detailed inspection procedure

No	procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the control box Check the PCB fuse	1) Is 1st fuse disconnected? 2) Is 2nd fuse disconnected?	. Over current . Indoor Fan motor short . AC part and pattern short of Indoor PBA
2	Supply power If the operating lamp twinkles at this time , the above 1)~3) have no relation	Check the power voltage	
		1) Is the BD71 input voltage 200Vac~240Vac?	. Power cord is fault, Fuse open, Wrong Power cable Wiring, AC part is faulty
		2) Is the voltage between both terminal of IC02 pin #1-#2 12Vdc?	. Switching Trans of Power circuit is faulty
		3) Is the voltage between both terminal of IC02 pin #2-#3 5Vdc?	. Power circuit is faulty, Load short
3	Press the ON/OFF button 1. Fan speed(high) 2. Continuous Operation	1) Is the voltage over AC 180V being imposed on terminal #3-#5 of fan motor connector (CN72)?	. Fan motor of the indoor is faulty
		2) The fan motor of the indoor unit doesn't run	. Fan motor connector(CN72) is faulty
		3) The power voltage between terminal #3-#5 of the connector(CN72) is 0V	. PBA is faulty

12-3-5 Outdoor detailed inspection procedure

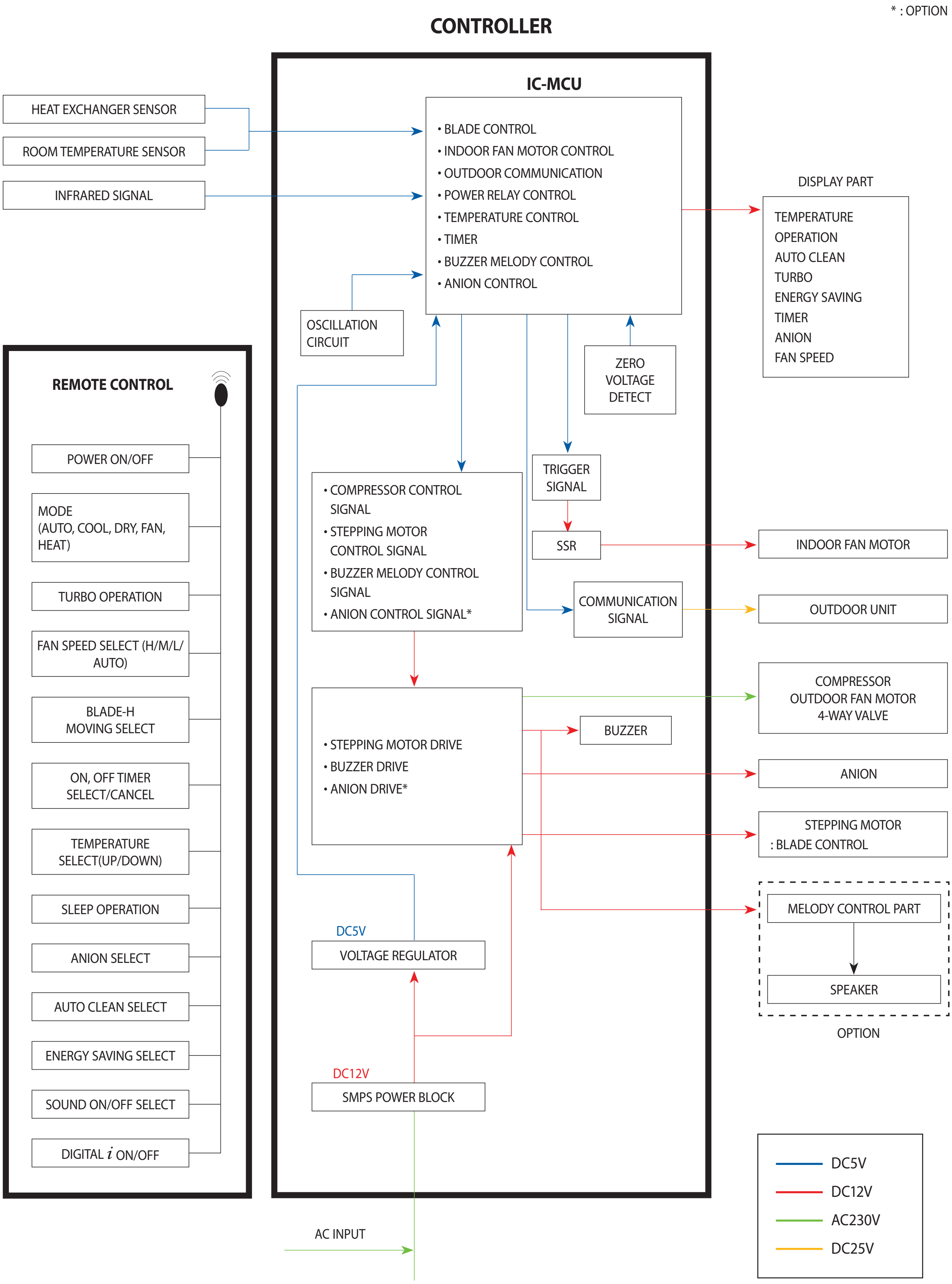
No	procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the control box Check the PCB fuse (Wait 3 minutes after power off)	1) Is 1st fuse disconnected?	. Over current . AC part and pattern short of Outdoor PBA
2	Check the Wiring	1) Is the Compressor wire connected clockwise? 2) Is the Reactor wire connected normal? 3) Is the Fan wire connected normal? 4) Is the 4way wire connected normal? 5) Is the sensor wire connected normal?	. Wrong assembly . Installation(service) condition is bad
3	Supply power and operate the set (Use Remote-control, button in indoor set)	Check the power voltage	
		1) Is the voltage between Terminal block L-N 200Vac~240Vac?	. Power cord is faulty, Wrong Power cable Wiring
		2) Is the C006 voltage 200Vac~240Vac?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA)
		3) Is the CE151 voltage 280Vdc~320dc?	. Power circuit is faulty . Load short
		4) Is the PFC050(#26-#27) voltage 200Vac~240Vac after 3 minutes later?	. Fuse open . L,N,F1,F2 wire wrong wiring (Terminal Block-PBA) . PTC020 open . RY021, RY022 is faulty . Outdoor Micom(IC201) error
		5) Is the CE101 voltage 280Vdc~320dc after 3 minutes later?	. PFC050 is faulty . Reactor wire is wrong connection . Power circuit is faulty, Load short . BLDC Fan motor error
		6) Is the voltage CE154 voltage 15Vdc?	. Switching Trans of Power circuit is faulty . Load short
		7) Is the voltage CE155 voltage 3.3Vdc?	. Switching Trans of Power circuit is faulty . Load short
		8) Is the voltage CE158 voltage 5Vdc?	. Switching Trans of Power circuit is faulty . Load short
		9) Is the voltage CE157 voltage 12Vdc?	. Switching Trans of Power circuit is faulty . Load short
4	Check the LED lamp display	1) Normal : RED on, GRN blink, YEL off 2) Abnormal - All off : check no power - abnormal display : check error mode	. F1,F2 wire wrong wiring . Outdoor PBA is faulty

12-4 Main Part Inspection Method

<table>
<tr><th>Part</th><th colspan="2">Breakdown Inspection Method</th></tr>
<tr><td rowspan="3">Room Temperature Sensor</td><td colspan="2">Measure resistance with a tester</td></tr>
<tr><td>Normal</td><td>At the normal temperature 37kΩ~ 8.3kΩ(-7˚C~+30˚C)</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Room Fan Motor</td><td colspan="2">Measure the resistance between terminals of the connector (CN72) with a tester.</td></tr>
<tr><td>Normal</td><td>At the normal temperature (10˚C ~ 30˚C)
<table><tr><th>Compare terminal</th><th>Resistance</th><th>Remark</th></tr><tr><td>Yellow, Blue</td><td>404.4Ω ± 10%</td><td>Main</td></tr><tr><td>Yellow, Red</td><td>340Ω ± 10%</td><td>Sub</td></tr></table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Stepping Motor</td><td colspan="2">Measure the resistance between the red wire and each terminal wire with a tester.</td></tr>
<tr><td>Normal</td><td>About 300Ω at the normal temperature (20˚C ~ 30˚C)</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
</table>

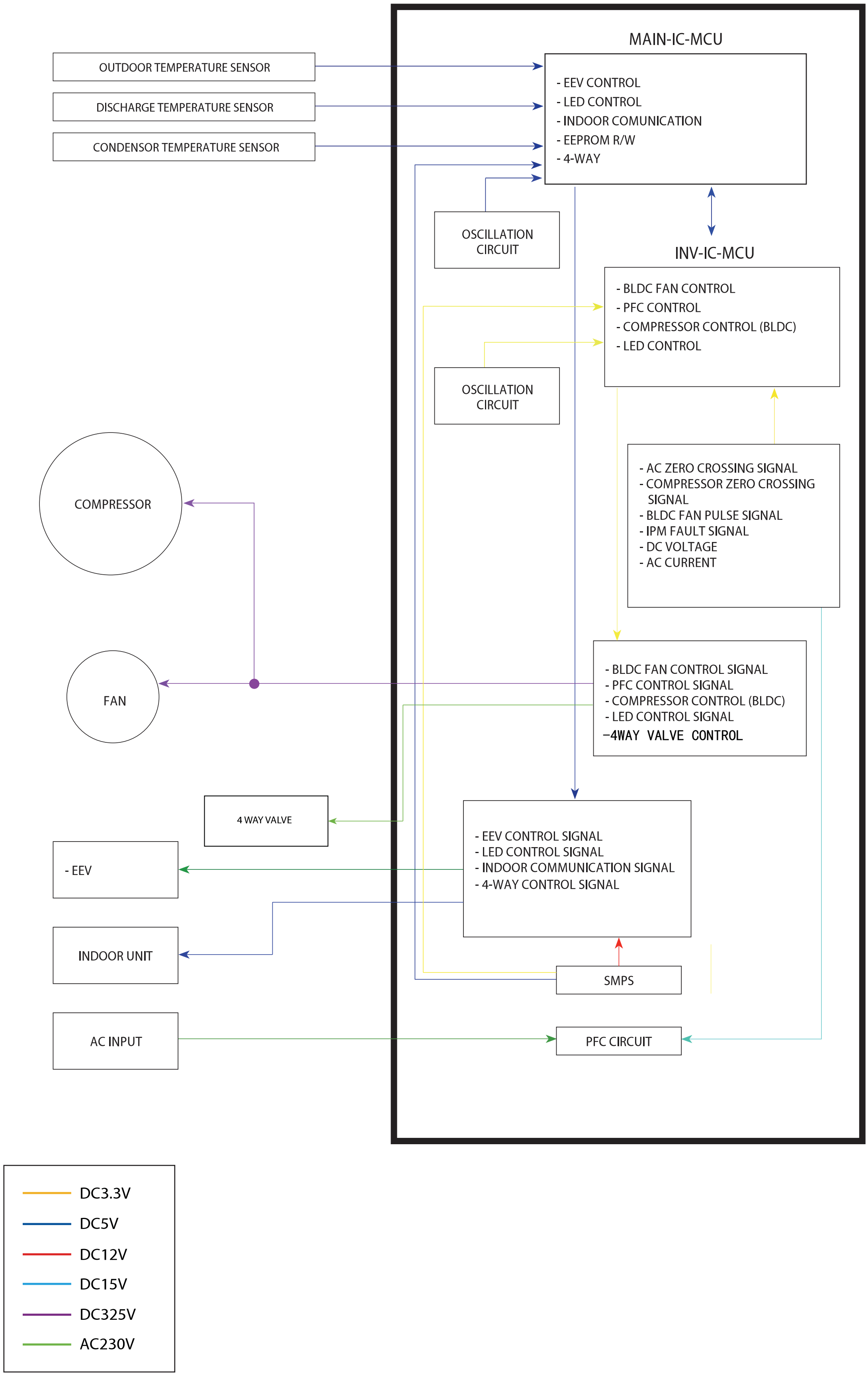
13. Block Diagram

13-1 Indoor Unit



13-2 Outdoor Unit

AR09 (12) FSFPESN*EU/AR09 (12) FSFPDGM*ET



14. Reference Sheet

14-1 Index for Model Name

※ Project model code for overseas from 2007(For RAC Export Models)

Model Code

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th
project		Capacity		Sell Year	Feature		Series		Color		Unit	Export	
A	R	0	9	F	H	A	D	A	W	K	N/X	E	U

Ex.) Maldives (Grille-White) Heat Pump12k Btu/h Model Indoor Unit

A R 1 2 F S F P D G M N E U

(1), (2) Product Division	
AR	RAC

(3), (4) Capacity	
09	9,000 Btu
12	12,000 Btu
18	18,000 Btu
24	24,000 Btu

(5)Sell year	
'12Year	E
'13Year	F
'14Year	G
'15Year	H
'16Year	J

(6)Feature	
INVERTER HP	S
INVERTER CO	V
HP R410a	Q
NON INVERTER CO R410a	R
NON INVERTER HP R22	P
NON INVERTER CO R22	C
HEATER HP	W
HEATER CO	T

(7) Feature	
SPI	S
No SPI	F

(8) (9) Project		
CRYSTAL	1ST MODEL	EA
CRYSTAL	Indonesia LOW-WATT 1ST	EB
CRYSTAL	India STF SPI 1ST	EC
CRYSTAL	WIFI + POWER	ED
CRYSTAL	SPI + POWER	EE
CRYSTAL	SPI + USE TIME	EF
CRYSTAL	INDIA STF SPI + POWER	EG
CRYSTAL	UROPE FMC + A+	EH
CRYSTAL	UROPE FMC + A	EJ
CRYSTAL	VIETNAM SPI + USE TIME	EK
JUNGFRAU-FLG	1ST MODEL	KA
MALDIVES	UROPE + A	PD
MALDIVES	UROPE + A+	PE
MALDIVES	UROPE FMC + A	PG
MALDIVES	UROPE FMC + A+	PH
BORACAY	1ST MODEL	TA
BORACAY	Indonesia LOW-WATT 1ST	TB
BORACAY	SMART 1ST	TC
BORACAY	India STF 1ST	TD
BORACAY	India SPI 1ST	TE
BORACAY	CIS FMC + R410a	TG
BORACAY	CIS FMC + R22	TH
BORACAY	UROPE + A	TJ
BORACAY	UROPE FMC + A+	TL
MAX	1ST MODEL	UA
MAX	Indonesia LOW-WATT 1ST	UB
MAX	SMART 1ST	UC
MAX	CIS FMC + R22	UD
MAX	UROPE + A	UE
MAX	UROPE FMC + A	UG
FMC STD	1ST MODEL (SPI INCLUDE)	SA
FMC STD	SPI EXCEPT	SB
VIVACE	1ST MODEL	VA
JUNGFRAU-PRM	1ST MODEL	YA

(10) (11) Color				
Jungfrau FLG	JungFrau Black	Grille	B	E
Jungfrau PRM	JungFrau White Pearl	Grille	W	T
Vivace	Clean Gray Pearl	Grille	B	P
Crystal	Vivaldi White	Grille	W	U
	Vivaldi Silver	Grille	S	I
	Vivaldi-L. Blue	Grille	U	P
Maldives	DA White	Deco	W	Q
	PM Gray	Deco	G	M
	Midnight Blue	Deco	U	R
	Sand Pink	Deco	P	N
	Cipria Gold	Deco	F	A
Boracay	PM Gray	Deco	G	M
	Midnight Blue	Deco	U	R
	DA White	Full Body	W	Q
	Light Gray	Full Body	G	H
Max	DA White	Deco	W	Q
	PM Gray	Deco	G	M
	Mild Blue	Deco	U	Q

(12) Unit	
N	Indoor Unit
X	Outdoor unit

(13), (14)Area	
EU	UNITED KINGDOM
EE	SWEDEN
ET	ITALY
ZE	CZECHO

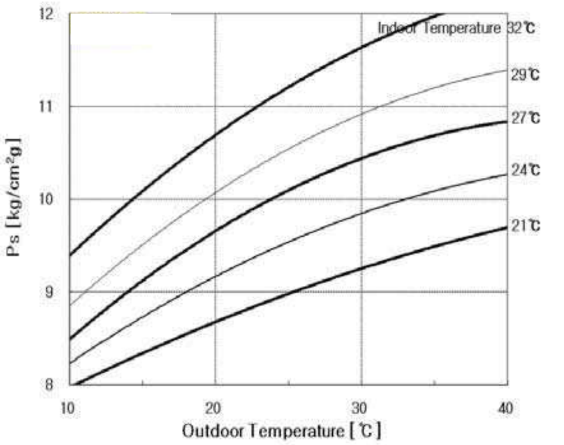
(12)Version	
A-K	SSEC
L-S	TSE

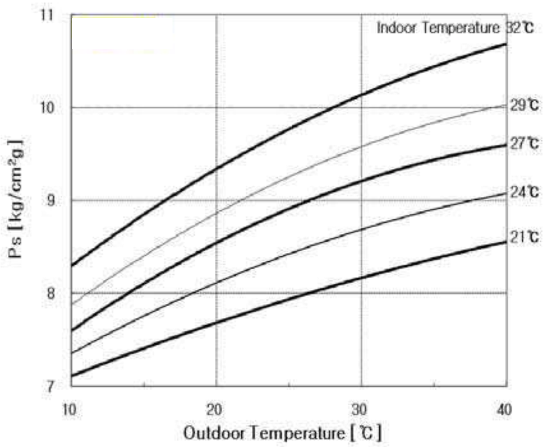
● Except the RAC Export Models for China.

14-2 Low Refrigerant Pressure Distribution

Note : • Please measure the refrigerant pressure after the air conditioner operates on testing cooling mode during more than 10 minutes.

□ Indoor Temp. Variation : 20° C ~ 32° C
□ Outdoor Temp. Variation : -5° C ~ 45° C





Outdoor Temperature[℃]

14-3 Pressure & Capacity mark

■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg·m/s	lb·m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	$3.9302x10^{-4}$	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

14-4 Q & A for Non-trouble

Classification	Class	Description
Cooling	Q	**The cooling is weak.**
	A	When it is hot outside, its cooling capacity decreases due to the increase of the ambient temperature. When the dust filter gets blocked or warm outside air gets in, the cooling capacity will decrease. So, make sure to clean the dust filter frequently, prevent heat loss by closing the doors and insulate the cooling area by using curtains, blinds, shades or window tinting.
	Q	**The cooling is good generally. But, it gets weak when it is considerably hot.**
	A	It occurs when the outdoor unit is exposed to direct sun light and heat-up air is not ventilated well.So, set up a sunblind over the outdoor unit and keep stuff away from the unit to increase the ventilation. When the cooling capacity decreases during a heat wave, clean the heat exchanger of the outdoor unit or spray some cold water to the heat exchanger to increase the cooling capability.
	Q	**The cooling is weak. Does it need refrigerant charging?**
	A	It is not correct charging refrigerant regularly. Except that you have moved in several times or the connection pipes are broken, the refrigerant does not run low. So, when refrigerant is additionally charged, it could be costly and cause a product's failure. When the refrigerant leaks, all of it will escape in a short time resulting in cooling failure and no water coming out of the drain hose. So, if water comes out from the drain hose, it indicates the normal operation of the product and it does not need refrigerant charging.
	Q	**It fails to do cooling.**
	A	When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.
Leakage	Q	**It floods the floor.**
	A	Place the drain hose properly. When it is not placed properly, the drain water would flow back flooding the floor. So, straighten out the drain hose for the water to be drained well.
	Q	**Water drips at the drain connection (service valve) of the outdoor unit.**
	A	When a glass bottle is taken out of the refrigerator, moisture gets condensed on its surface due to the temperature differences. The same principle applies to the air conditioner. When cold refrigerant goes through the copper tube, moisture gets condensed on the surface of the tube and the connection areas. To prevent the water condensation, the pipes are insulated. But, the connection areas of the outdoor unit are not insulated for the purpose of maintenance or repair, and water gets condensed due to the temperature differences and drips down. Generally, it evaporates right away. But, when it drips much during muggy days, put a water pan on the floor.
	Q	**It leaks even though a drain pump is used.**
	A	It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.
Smells	Q	**Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.**
	A	There are no components in the air conditioner irritating the eyes and sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, it occurs at a interior renovated place, a pharmacy, a gasoline handling place, a tire shop, a second-hand book shop or an electronic component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.

Classification	Class	Description
Smells	Q	**Whenever the air conditioner is turned on, it stinks.**
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	**Whenever the air conditioner is turned on, it smells sour.**
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it smells musty.**
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.
	Q	**Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.**
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	**It sends out bad smells.**
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	Q	**It won't start.**
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	**It goes off during operation.**
	A	When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	**It generally works properly. But, when it's considerably hot, it goes off during operation.**
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.
	Q	**The remote controller won't operate.**
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wave length lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

Classification	Class	Description
Installation	**Q**	**Who installs the air conditioner? (Relocation/Re-installation)**
	A	When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job. (If not, it could cause personal injury or product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.
	Q	**Is it possible to install the outdoor unit outside?**
	A	It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.
	Q	**What can be done to install the outdoor unit facing the road because it is a commercial building?**
	A	The following is an excerpt from Building Code going into effect from JUNE 1st 2005. "The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2 m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	**What about installing a windscreen during installation not to blow hot air directly to passers-by?**
	A	When the hot air from the front of the outdoor unit is blocked, the product's performance will be affected and it will fail to operate properly. So, keep it at least 300mm away from its surrounding walls and give it good ventilation.

14-5 Cleaning/Filter Change

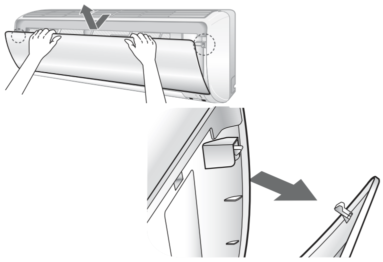
14-5-1 Cleaning your Air Conditioner

To get the best possible use out of your air conditioner, you must clean it regularly to remove the dust that accumulates on the air filter.

• Before cleaning your air conditioner, ensure that you have switched off the breaker used for the unit.

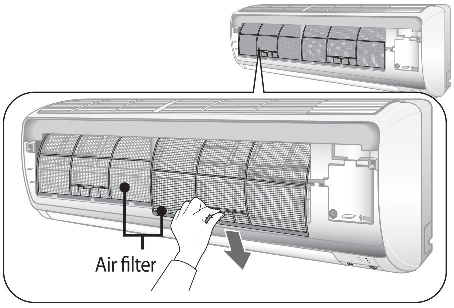
Opening the panel

Tightly grab top of the front panel and pull it down to open.
Then slightly lift the panel up.



Removing the Air filter

Grab the handle and lift it up. Then, pull the Air filter towards you and slide it down.

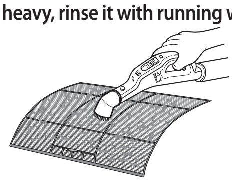


Cleaning the air filter

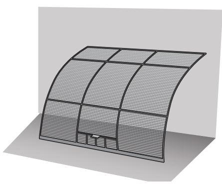
Washable foam based air filter captures large particles from the air. The filter is cleaned with a vacuum or by hand washing.

Open the panel and put the Air filter out.

Clean the Air filter with a vacuum cleaner or soft brush. If dust is too heavy, rinse it with running water.



Dry the Air filter in a ventilated area.



Insert the Air filter back in its original position and close the front panel.

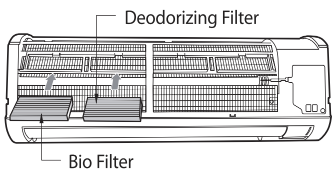
NOTE

- Clean the Air filter every 2 weeks or when the filter clean reminder lights up. Cleaning term may differ depending on the usage and environmental conditions. In dusty area, clean it once a week.
- If you turn off the air conditioner by pressing **Power** ⏻ button, the filter clean reminder will be turned off.
- If the Air filter dries in a confined (or humid) area, odors may generate. If it occurs, re-clean and dry it in a well-ventilated area.

14-5-2 Cleaning Deodorizing and Bio filter (Option)

To remove minute dust particles and odors, deodorizing and Bio filter are installed in the air conditioner.
You should clean the filters every 3 months.

1. Open the upper front grille by pulling the lower right and left tabs of the grille.
2. Pull out the deodorizing and Bio filter.
3. Wash the filters with clean water, then dry them in the shade.
4. Insert the filters into the original position.
   Note : • You can change the position of filters with each other.
5. Close the front grille.



14-6 Installation

14-6-1 Before Installation

Keep the air conditioner outlet and inlet free from its surroundings.
In case of installation, keep the symmetry and fix it to prevent vibration.
The pipe length shall meet the standard as far as possible.

14-6-2 Installation Procedure

■ **Location**
Install the product in an area to guarantee the best cooling effect, convenience of piping and electric work, and inexistence of vibration or wind.

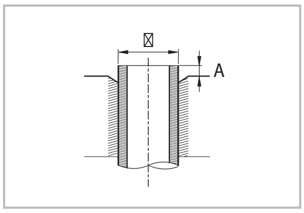
■ **Wall Drilling**
Drill the wall downward in a diameter of 60 to 65mm.

■ **Fixing Indoor Unit & Outdoor Unit**
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

■ **Pipe Spooling & Connecting**
You shall cut the pipe with a pipe cutter and grind all the burrs of the cut surface.
Pipe expansion may continue until the pipe surface becomes uneven or torn apart.
Be sure to use a torque wrench to tighten pipes or flare nuts.

<Torque & Depth>

Outer Diameter(D)	Torque(kgf·cm)	Depth(A)
6.35mm(1/4")	140~170	1.3mm
9.52mm(3/8")	250~280	1.8mm
12.70mm(1/2")	380~420	2.0mm
15.88mm(5/8")	440~480	2.2mm
19.05mm(3/4")	990~1,210	2.2mm



■ **Leak Test**
Put an inert gas like nitrogen in the outdoor unit pipe and put soap bubbles or other test liquids on the pipe surface for the leak test.

■ **Drain Hose Connecting**
Install the drain hose downward to drain water naturally. Be sure to pour water into the hose to check if it drains well.

■ **Electric & Earth Work**
Electric and earth work shall meet the "Electric Facility Technology Standard" and the "Internal Wire Regulation" of the Electric Business Laws.

■ **Inspection & Trial Run**
Upon completion of the tests, you shall make a trial run while you explain the main functions of the air conditioner to finish the installation.

14-7 Installation Diagram of Indoor Unit and Outdoor Unit

14-7-1 Air-Purge Procedure

1) Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.

2) Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port as shown at the figure.

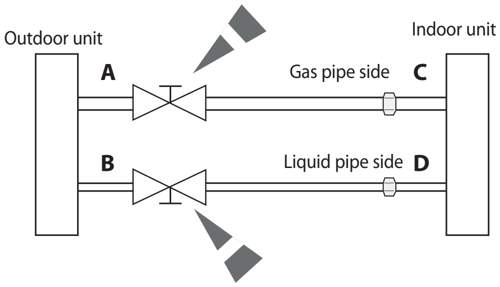
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

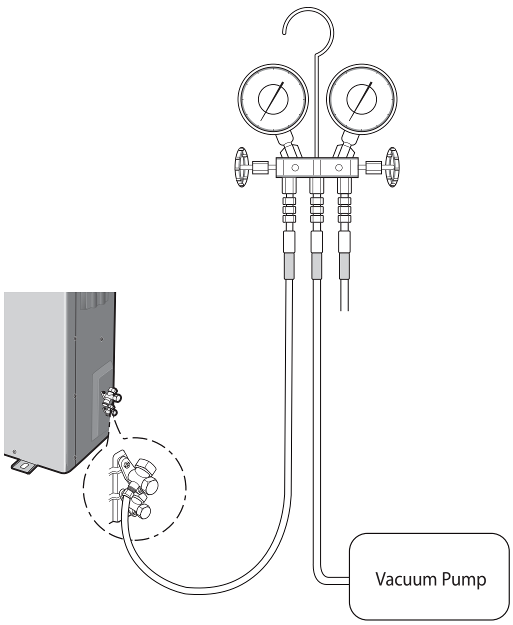
4) Purge the air from the system using vacuum pump for about 30 minutes.
   - – Make sure that pressure gauge show -0.1MPa(-76cmHg) after about 30 minutes.
   - – This procedure is very important in order to avoid gas leak.
   - – Turn off the vacuum pump.
   - – Close the valve of the low pressure side of manifold gauge clockwise.
   - – Remove the hose of the low pressure side of manifold gauge.

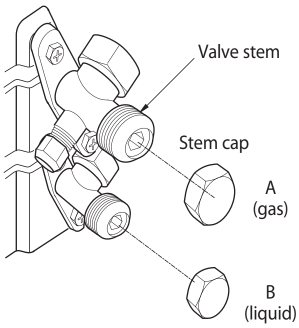
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

6) Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 183kgf•cm with a torque wrench.

7) Check for gas leakage.
   - - At this time, especially check for gas leakage from the 3 way valve's stem nuts, and from the service port cap.







14-7-2 “Pump down” Procedure

Pump down will be carried out when an evaporator is replaced or when the unit is relocated in another area.

1) Remove the caps from the 3 way valve and the 3-Way valve.

2) Turn the 3-Way valve clockwise to close and connect a pressure gauge (low pressure side) to the service valve, and open the 3 way valve again.

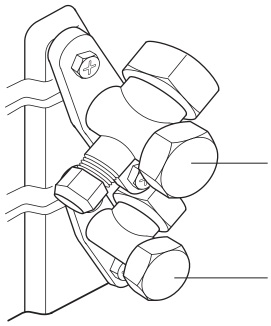
3) Set the unit to cool operation mode. (Check if the compressor is operating.)

4) Turn the 3-Way valve clockwise to close.

5) When the pressure gauge indicates "0" turn the 3-Way valve clockwise to close.

6) Stop operation of the air conditioner.

7) Close the cap of each valve.



Remarks

Relocation of the air conditioner

- Refer to this procedure when the unit is relocated.
- Carry out the pump down procedure (refer to the details of 'pump down').
- Remove the power cord.
- Disconnect the assembly cable from the indoor and outdoor units.
- Remove the flare nut connecting the indoor unit and the pipe.
- At this time, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Disconnect the pipe connected to the outdoor unit.
  At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Make sure you do not bend the connection pipes in the middle and store together with the cables.
- Move the indoor and outdoor units to a new location.
- Remove the mounting plate for the indoor unit and move it to a new location.

15-1. POWER SUPPLY

Working Voltage	176V ~ 264V
Voltage Imbalance	Within a 3% Deviation from Each Voltage at the Main Terminal of Outdoor Unit
Starting Voltage	Higher than 80% of the Rated Voltage

15-2. WORKING RANGE

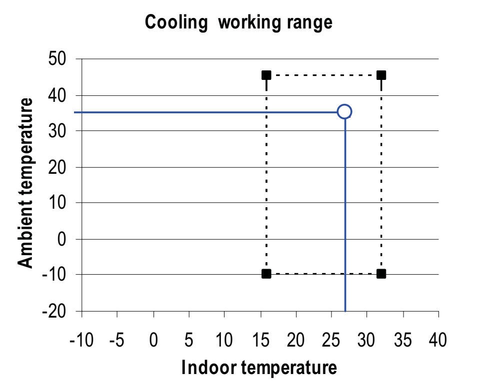
Applicable models:

AR09(12)FSFPKGMNET/AR09(12)FSFPKGMNZE

The temperature range is indicated in the following table.

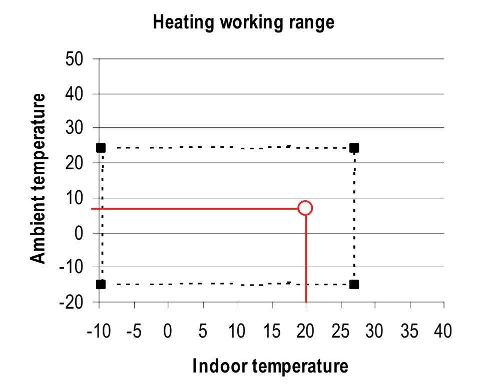
Cooling

working range	min (°C)	max (°C)	rated (°C)
outdoor	-10	46	35
indoor	16	32	27



Heating

working range	min (°C)	max (°C)	rated (°C)
outdoor	-15	24	7
indoor	—	27	20



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